

# FLIGHT

The  
AIRCRAFT  
ENGINEER  
&  
AIRSHIPS

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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## Flight

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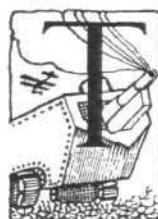
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## EDITORIAL COMMENT.



THE first successful flight from Belgium to Congo was celebrated on Friday of last week, when the directors of Handley Page, Ltd., entertained Lieut. Thieffry and his *mecanicien*, de Bruycker, at a gathering at the Savoy Hotel. The achievement is, indeed, one of which all concerned may well be satisfied.

The climatic and geographical difficulties were extraordinarily great, and when they were successfully overcome it was due to the British machine and engines no less than to the skill of the Belgian crew. Sir Samuel Hoare very rightly pointed out the advantages of personal inspection and intercourse, and Mr. J. H. Thomas, in his telling phrase about talking *to* instead of *at* one another, called attention to the very great instrument for goodwill among nations which aviation forms. On every hand these facts are beginning to be admitted, and consequently the importance of long-distance flights as a preliminary to regular air routes is becoming increasingly great. The Brussels-Kinshasa flight, a brief *résumé* of which is given elsewhere in this issue, has again shown what can be accomplished by a British machine and British engines under very trying conditions. The flight of Mr. Cobham and Sir Sefton Brancker to India and back is another excellent example. These and other flights have demonstrated that the British aircraft industry is capable of undertaking work of this strenuous nature, and that nothing is required except the further opportunity to put up similarly good performances.

In this connection attention is inevitably called to the two long-distance flights which are planned, and to which Sir Samuel Hoare referred in an interview recently. One of these will be from Egypt to South Africa, and the other from Egypt to Nigeria. Sir Samuel very rightly expressed the opinion that such flights, mainly over British territory, would do more good and be of greater practical value than flights outside the British Empire, and would be a very

## DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

1925

- May 28-June 13 Royal Tournament, Olympia.
- May 28 .... R.A.F. Middle East Dinner.
- May 29 .... Aero Golfing Soc. Match, Oxhey.
- May 31-June 9 Deutscher Rundflug.
- June 6 .... Visit to Croydon Aerodrome, by I.Ae.E.
- June 7 .... Gordon Bennett Balloon Race, Brussels.
- June 12 .... Entries close for King's Cup Race.
- June 23 .... Independent Force (R.A.F.) Re-Union Dinner, R.A.F. Club, 7.45 p.m.
- June 25 .... Aero Golfing Soc. Match, Mid-Surrey.
- June 27 .... Royal Air Force Pageant, Hendon.
- June 27 .... R.A.F. Iraq Dinner, Holborn Restaurant, at 8.15 p.m.
- July 8-4 .... King's Cup Race.
- July 26-Aug. 9 Vanville Light 'Plane and Glider Meeting.
- Aug. 1-3 .... Royal Aero Club Race Meeting at Lympne.
- Sept. 19-28 F.I.A. Conference at Prague.
- Oct. 8 .... Aero Golfing Soc. Autumn Meeting, Walton Heath.
- Oct. 24-29 Schneider Cup Race, Baltimore, U.S.A.

welcome encouragement to these distant parts of the Empire. "Showing the flag" by air is undoubtedly the coming thing, and it is sincerely to be hoped that the next flag to be "shown" by a long-distance flight will be the Union Jack.

### Aerial Surveying

The announcement found on another page of this issue of FLIGHT, that the Aircraft Operating Company has had its tender accepted for the carrying out of an experimental air survey on behalf of the Ordnance Survey Department, will be welcomed by all interested in aviation. The survey planned is an experiment, it is true, but there is little doubt that it will be successful. It is desired to ascertain to what extent air surveying can assist in the revision of the existing 25-in. maps of England, and the acceptance of the tender may be regarded as the first official recognition at home of the advantages of air surveying. In Canada much has, of course, already been accomplished in this direction, and to the Canadian authorities must be given the credit for being first to grasp seriously the enormous possibilities of this new form of survey. We have referred in FLIGHT from time to time to the excellent work done in Canada, and it may be mentioned that during the past season no less than 40,000 square miles have been surveyed by aerial photography. The benefits attending the accurate surveying of large tracts of land and lakes such as are found in Canada are incalculable, and although the nature of the survey about to be undertaken by the Aircraft Operating Company is vastly different, being much more detailed and to a larger scale, so as to supplement maps already in existence, there is no reason to believe but that, in its way, it will be just as valuable. The possibilities of making aerial surveys in various parts of the British Empire are tremendous, and we regard the present experiment as the beginning of a new sphere of activity for aircraft and personnel, a sphere which may well in time become of widespread importance.

### Round-Germany Flight

In this issue of FLIGHT will be found particulars of most of the aeroplanes and light 'planes that are to take part in the great Round-Germany competition which starts from Berlin on Sunday morning next. Concerning the competition itself we gave detailed particulars in our issue of April 30. It may be remembered that five separate circuits have to be flown, the average length of each of which is approximately 670 miles. The circuits have been so planned that the homeward portion of one overlaps the outward portion of the next, and the whole of Germany is criss-crossed in this manner, so that there will be few towns of any size which will not at some stage or other of the competition have an opportunity of seeing the competing machines. As more than half of the German aircraft firms have their works in provincial German towns, it will be realised that this planning of the routes will do much to arouse interest, the inhabitants of any one city where there is an aircraft works being naturally very keen to see "their" machines win the competition. The prizes offered reach the generous figure of some £15,000, which explains how it is that no less than 91 machines have been entered for the competition. Without going into details, it may be said that the

competition is a reliability trial, the aim being not speed, nor carrying power, but simply *mileage*. Marks will be forfeited for certain changes in personnel or material, but the great thing aimed at is mileage. Details of the formulae to which the machines will fly were given on April 30.

That a vanquished country like Germany should be able to get together more than 90 machines for such a competition gives one food for thought. In this country, which is sometimes supposed to have won the War 1914-18, it is difficult to scrape together some half-dozen machines to compete for a few small prizes, but in Germany the authorities seem to grasp the importance of encouraging the aircraft industry, and we think it can be said that the "Deutscher Rundflug 1925" marks the beginning of Germany's effort in the air, an effort which will doubtless be redoubled as soon as that country has been released from the restrictions with which she is at present surrounded. It would be well if our own authorities, having realised that Germany "means business," and that she will strain every nerve towards "peaceful penetration" in the air, no less than in other spheres, took the necessary steps not to be left behind. If Germany is commencing her effort now we must do the same, or wake up one fine morning to discover that all the routes worth bothering about are served by German machines. It will not be sufficient to be content, as we have been hitherto, with running our London-Paris and London-Cologne lines.

These lines afford an opportunity for full-scale experiment, but they lead nowhere in particular and are of little practical use as they stand. What is necessary is for us to take a wider outlook, to go farther afield where we are not obliged to ask permission of other nations to operate air routes. Fortunately, we believe that Sir Samuel Hoare realises this, and we are quite certain that Sir Sefton Brancker does, but this is of little avail provided Treasury support is not forthcoming. We do most seriously urge that the trans-desert route be "civilianised" without delay, and that every consideration be given to the claims of any proposed seaplane routes. The seaplane is a subject to which we of FLIGHT constantly return, and possibly some of our readers may be beginning to be somewhat tired of our constant reiterations of the advantages of the seaplane. We do feel, however, that unless and until the seaplane is given its opportunity this country will not attain success in civilian aviation, more especially as regards Empire aviation.

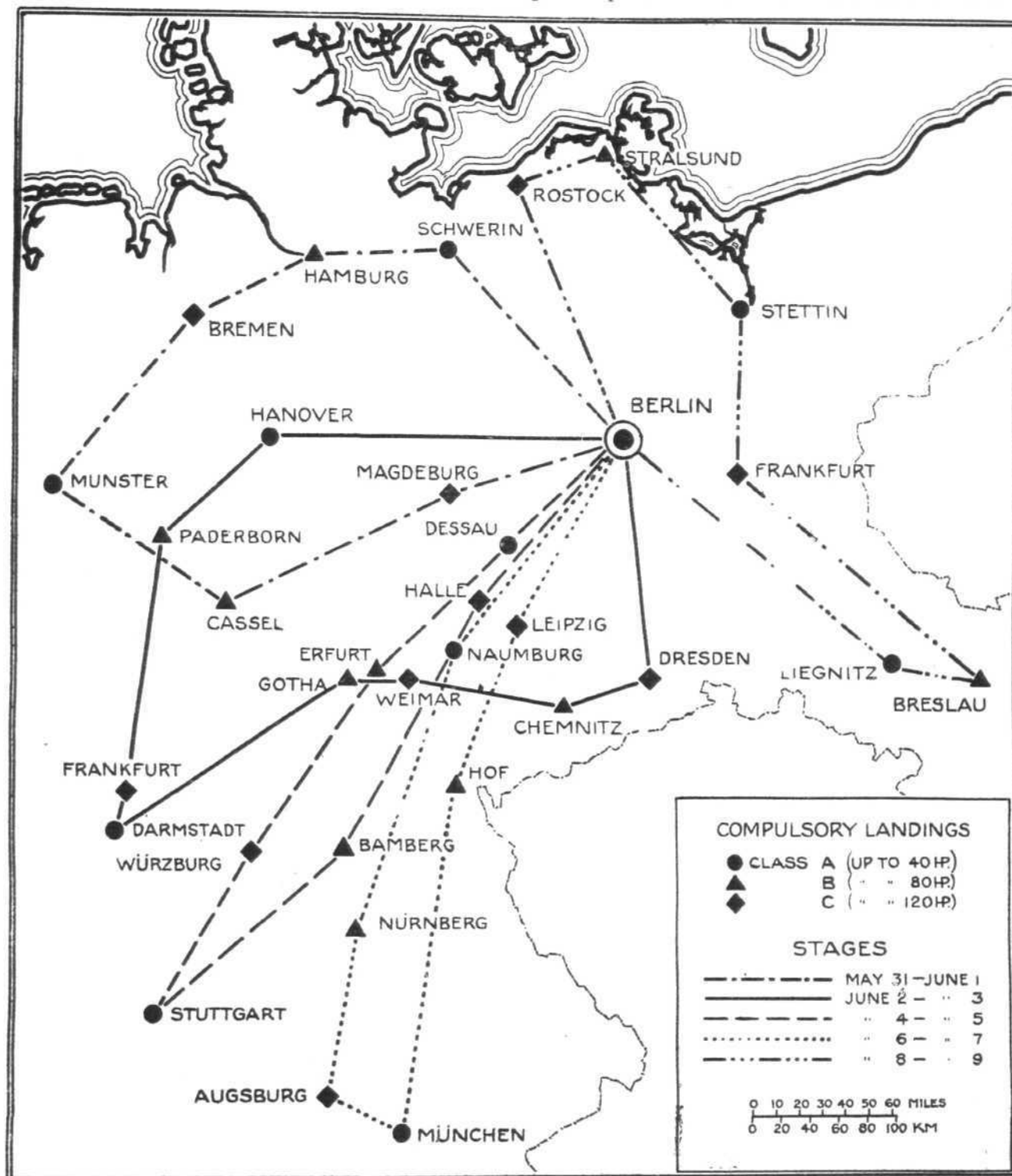
However, to return to the Round-Germany flight, we believe that this week's issue will be found of more than usual interest, not only for the particulars of machines given, but also, and perhaps more so, because the article forms a convenient index to present-day German aviation. There is practically not a type of machine, up to the 120 h.p. permitted at any rate, to which reference is not made, and all the names of leading German firms will be found. Next week we hope to be able to give an account of the opening stages of the competition. One thing is particularly gratifying, viz., that a number of British engines are being used on some of the competing machines, although the use of foreign engines is to some extent penalised by the rules. The four British engine firms represented are: A.B.C., Blackburne, Bristol and Douglas.

# THE ROUND-GERMANY FLIGHT

## Ninety-One Aeroplanes to Start on Sunday

ON Sunday morning next will start one of the greatest aeroplane contests held in Europe for very many years, when some ninety-one machines will depart from the Tempelhofer Aerodrome at Berlin on the first of the five circuits which will constitute the round-Germany Flight. (Deutscher Rundflug.) In our issue of April 30, 1925, we gave full particulars of the rules which govern the competitions and also published a

more generally known as the "B.Z." Space does not permit of going into details as regards the formula to which the machines have to fly, but briefly, the basis of the whole competition may be said to be one of mileage flown. Points will be deducted for change of pilot and for certain changes made in machines and engines, but the fundamental formula places a premium on the number of kilometres flown. Those



**THE ROUND-GERMANY FLIGHT:** Sketch-map showing how the various circuits overlap in order to enable as many German towns as possible to see the competing machines. Machines start from and finish at the Tempelhofer aerodrome in Berlin in each circuit, and the direction flown is anti-clockwise.

map showing the five circuits. For the convenience of our readers we are reproducing the map again this week. The map is self-explanatory in so far as it shows the different towns called at on the various circuits, but it might be pointed out that in all cases the flights are carried out in an anti-clockwise direction.

The size of the entries list is largely explained by the fact that in all something like £15,000 in prizes is being offered, of which the largest is being given by the "Berliner Zeitung."

desiring further details are referred to our article in the April 30 issue.

The competing machines are divided into three classes according to horse-power: Class A for machines whose engine-power does not exceed 40 h.p.; class B not exceeding 80 h.p., and class C not exceeding 120 h.p. In all five circuits the machines will start from the Tempelhofer Aerodrome in Berlin, and the aim of all competitors will be to finish each circuit in Berlin, but the rules permit competitors, should

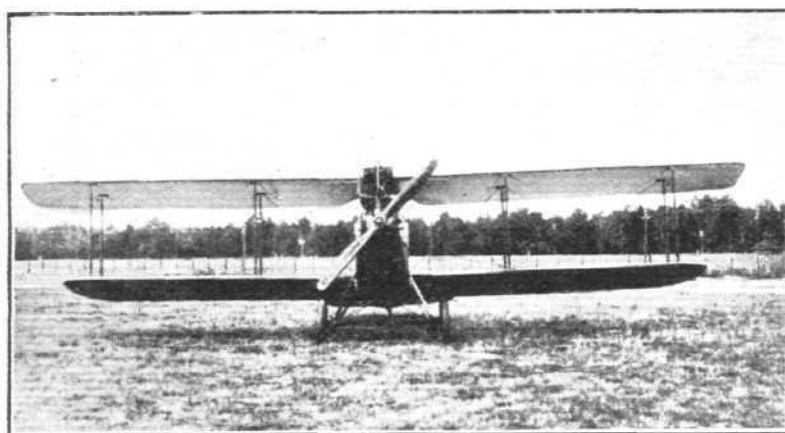


they find it impossible to get back to Berlin in any one circuit, to abandon that particular circuit at any point and to fly from there across country to the nearest point on the next circuit where they may then commence their flying on that circuit. In doing so, however, competitors will, of course, lose the mileage still remaining to be covered in the circuit they have abandoned. It may, therefore, be taken for granted that competitors will make every endeavour to complete each circuit.

The official start from the Templehofer Aerodrome in Berlin will take place in the early morning of Sunday, May 31, the machines being sent away according to classification, those of class A starting at 4 a.m.; of class B at 4.30 a.m., and of class C at 5 a.m. No machine with an engine-power exceeding 120 h.p. is admitted to the competitions.

## THE MACHINES

In our April 30 issue we published a complete list of entries in accordance with the sequence of entry, but we would warn any of our readers who may contemplate visiting Germany to watch the competitions that since then entirely different numbers have been allocated and that the machines are now numbered from 601 to 691. Any machine seen flying over Germany and whose number falls within those limits may therefore be taken to be one of the machines competing in the Round-Germany flight.



Two views of the "Aero-Sport I," a dual-control school machine with 120 h.p. Mercédès engine.

It has not been possible to obtain from the constructors full particulars of all the competing machines, but the following notes and photographs will, we believe, be found to deal with the more important types. Next week we hope to be in a position to give photographs and particulars of such of the machines as are missing from the following notes.

## The Aero-Sport I

The Aero Sport Company of Warnemünde is one of the new-comers to the German aircraft industry, and to the best of our recollection has not hitherto produced any aeroplanes, an assumption which appears to be borne out by the fact that the type entered for the competition is named "Aero-Sport I." This is a two-seater biplane intended mainly for school work, and is therefore provided with dual control. When the machine is used for sporting flying the second set of controls can be easily removed.

As will be seen from the two views of the machine given herewith, the "Aero-Sport I" is on rather typical German lines, and may be said to resemble considerably the Albatros biplanes of pre-War days. The tail surfaces, however, are different from those of the Albatros machine. The fuselage is of rectangular section and covered with plywood. The biplane wings are of normal shape and construction and are fabric covered. Normally the "Aero-Sport I" is fitted with 120 h.p. Mercédès engine, but if desired it can be obtained with a 100 h.p. Mercédès. The machine has an overall length of 7.8 m. (25 ft. 7 ins.), a wing span of 12.5 m. (41 ft.) and a height of 2.9 m. (9 ft. 6 ins.); the weight empty is 710 kgs. (1,560 lbs.), and the useful load is 310 kgs. (682 lbs.), giving a total loaded weight of 1,020 kgs. (2,242 lbs.). The top speed is 120 km./h. (74.5 m.p.h.), and the time to 3,000 m. is 25 mins. Two of these machines are entered for the competition.

## The Albatros Machines

One of the oldest German aircraft firms is the Albatros-Werke of Johannisthal, near Berlin. Long before the War the Albatros machines had made history, and it may be recollected that it was on an Albatros biplane with 100 h.p. Mercédès that the German pilot Landmann established a world's duration record of over 24 hours in 1914.

For the Round-Germany flight a considerable number of Albatros machines have been entered, but we regret that we have been unable to obtain particulars of these in time for this week's issue of FLIGHT. Several of them are, however, types which have been already described in FLIGHT, such as the L.59 low-wing monoplane described in FLIGHT of June 5, 1924, and the L.66 light monoplane described in FLIGHT of June 12, 1924. Several later types have, however, been entered, such as the L.67, L.68, L.69 and L.71. Of these types, however, nothing is known, and we must defer a description until next week.

## Bahnbedarf A.G.

A considerable number of machines built by the Bahnbedarf Company of Darmstadt have been entered for the competition, most of them being light planes, and all being fitted with Blackburne "Tomtit" engines. For this reason it is all the more regrettable that we have been unable to obtain from the Bahnbedarf company any particulars of the machines entered. One type, however, is already well known to readers of FLIGHT, as it is the B.A.G., E.I., on which Herr A. Botsch won the flight around the *Zugspitze*. This is a light monoplane of exceptionally clean lines, and has been illustrated on more than one occasion in FLIGHT. In view of the fact that all the machines entered are to be fitted with Blackburne engines, it may perhaps be assumed that the

new types will not be greatly different from the well-known B.A.G., E.I.

## Bäumer Aero G.M.B.H.

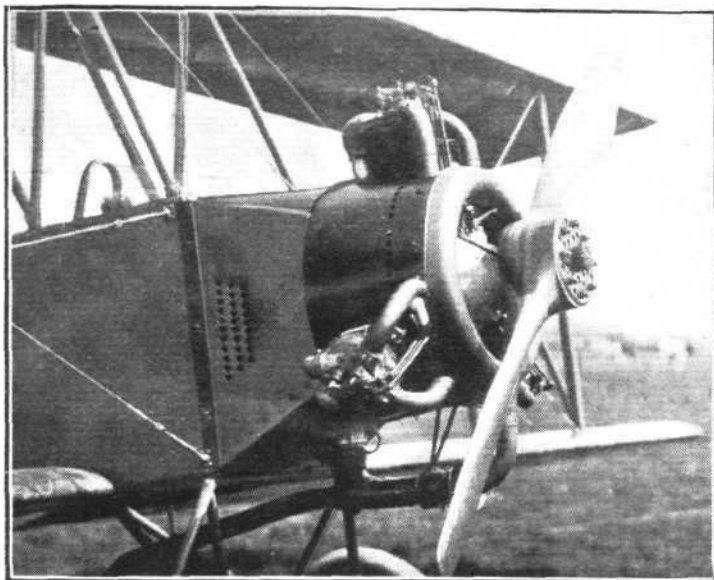
Among the new comers to the German Aircraft industry who are beginning to make a name for themselves must be counted the Bäumer Aero firm of Hamburg, which has two different types of machines in the Competition. One of these is the B.II monoplane, which has been christened "Sausewind," and the other, the B.III, named "Alsterkind." At the moment of writing neither machine is finished, so that it is not possible to give photographs.

The B.II is a normal monoplane two-seater in that the wing is placed half-way up the sides of the fuselage. The machine has been designed as a fast sports monoplane, and the wings as well as the fuselage are covered with three-ply. Apart from its very clean aero dynamic lines, the B.II has been designed for rapid dismantling and erecting, each wing, rudder, elevator, etc., being removable by undoing two bolts. The engine used is a Wright L.4, of 60 h.p. The main characteristics of the B.II are: Length o.a., 6.1 m. (20 ft.); span, 9.3 m. (30 ft. 6 ins.); wing area, 11.6 sq. m. (125 sq. ft.); weight empty, 280 kgs. (616 lbs.); useful load, 210 kgs. (462 lbs.); total loaded weight, 490 kgs. (1,068 lbs.); top speed, 170 km./h. (106 m.p.h.); rate of climb at ground level, 3 m./s. (10 ft./sec.).

The B.III is a biplane designed for touring and sports flying, and low landing speed rather than high top speed has been aimed at. It is claimed that the landing speed is as low as 60 km./h. (37½ m.p.h.). The fuselage is of oval section and covered with ply wood. The biplane wings are braced by N-Struts and one set of bracing wires. The top plane is mounted on a *cabane*, while the bottom plane is attached to the fuselage. Like the monoplane, the B.III is fitted with a 60 h.p. Wright L.4 engine. The main data relating to the B.III are as follows: Length, o.a., 5.9 m. (19 ft. 4 ins.); span, 8.2 m. (26 ft. 11 ins.); wing area, 17.9 sq. m. (193 sq. ft.); weight empty, 295 kgs. (650 lbs.); useful load, 240 kgs. (528 lbs.); total loaded weight, 535 kgs. (1,178 lbs.); top speed, 135 km./h. (84 m.p.h.); rate of climb at ground level, 2.9 m./s. (9 ft./sec.).

### Caspar

Another name, famous in the history of German aviation, is that of the Caspar-Werke of Travemünde-Priwall. Several machines designed and constructed by this well-known firm are entered for the competition, but as in several other cases the machines are somewhat late, and no particulars have



This photograph shows how the Bristol "Lucifer" is mounted in one of the Caspar biplanes.

come to hand at the time of going to press. We hope to be in a position to publish illustrations and descriptions of the Caspar machines next week. This much may, however, be said that at least one of the Caspar machines will be fitted with a Bristol "Lucifer" engine of 100 h.p. A photograph of this engine in one of the Caspar machines is published herewith.

### Daimler-Motoren-Gesellschaft.

One of the most famous names, not only in German automobile and aviation circles, but in the world, is that of Daimler. The machines taking part in the Round-Germany flight were designed and built by the Sindelfingen works of the Daimler Motor Co., which have been interested in light 'plane construction for some considerable time. Two very interesting types are entered (some in several examples) for the competition, these being the L.20 and L.21. Unfortunately, photographs are available of the former only. We say unfortunately, because the L.21 machines entered are, according to the entries list, to be fitted with two engines each. As each of these Mercedes engines is only rated at 19 h.p., it will be seen that, in spite of being twin-engined machines, the L.21 may fairly be described as a light 'plane. This is of course a very interesting innovation, and it will



The Daimler L.20 is a low-wing light monoplane two-seater with 19 h.p. Mercedes-Daimler engine.

be curious to see how the twin-engined type compares for reliability with the single engined.

The L.20 may be said to be a development of the L.15 light 'plane which was described in *FLIGHT* some months ago. A novel feature of the design is that the machine has been so arranged as to be suitable for use both as a light 'plane and a glider. When it is desired to use the L.20 as a glider, an ingenious arrangement enables the wings to be swept back at a considerable angle so as to bring back the c.p. The engine is removed and a nose-cap fitted over the front of the fuselage. With this arrangement the absence of the engine in front is balanced by the backward sweep of the wings and the machine retains its trim fore and aft.

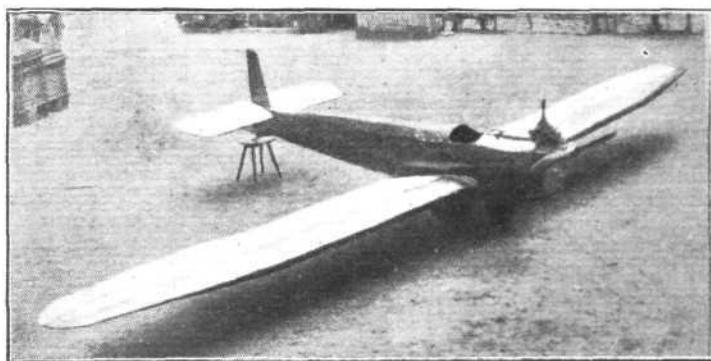
Constructionally, the Daimler L.20 follows orthodox lines. The wing is placed low on the fuselage, and is of the cantilever type. The wings are attached to short wing roots built into the fuselage, and can be easily dismantled for transport, when they fold flat against the sides of the body. The fuselage is of ordinary girder type and fabric covered. The undercarriage is divided so as to minimise the risk of the machine tripping up in long grass.

This 'plane has a Mercedes engine specially developed for use on light 'planes. It is of the two-cylinder opposed air-cooled type with a bore of 75 mm. and a stroke of 100 mm., giving a cubic capacity of 885 c.c. The wing area of the L.20 is 20 sq. m. (215 sq. ft.) and the empty weight is 220 kg. (485 lbs.), with a useful load of 170 kg. (375 lbs.), the total loaded weight being 390 kg. (860 lbs.). The top speed is stated to be 100 km./h. (62 m.p.h.) and the landing speed 60 km./h. (37½ m.p.h.), the ceiling (which has actually been reached in flight) is 3,500 m. (11,500 ft.).

### The Darmstadt "Mohamed"

Designed and built entirely by the members of the Akademische Fliegergruppe Darmstadt in the summer of 1924, the Darmstadt "Mohamed" is a light 'plane of rather unusual but very clean design. The general lines are fairly well shown in the accompanying scale drawings and photograph. The monoplane wing is very low over the ground, so that a very narrow wheel track suffices, the wing tips being built strong enough to withstand any slight shocks caused by the machine heeling over on the ground. In the photograph the "Mohamed" is shown fitted with a water-cooled engine, but in the actual competition it is likely to be fitted with a British Blackburne "Tomtit."

The fuselage is of oval section, and is covered with ply wood. The wing is of the single-spar type, but is provided



The "Mohamed" of the Akadem. Fliegergruppe, Darmstadt, is a light monoplane in the true sense of the word. In the competition it will probably be fitted with a British Blackburne engine.

with three-ply covering over the nose of the wing so as to provide the necessary strength against torsional loads.

The undercarriage has its wheels individually mounted with the legs enclosed in "trousers" to reduce head resistance.

The lines of the "Mohamed" are exceptionally clean, and considering that the machine has been built entirely by private enterprise, and one might even say by amateurs, it is a most creditable piece of work, and it is to be hoped that it will do well in the competition. The wing span of the "Mohamed" is 10.5 m. (34 ft. 4 ins.) and the fuselage is 4.8 m. (15 ft. 9 ins. long). The total loaded weight of the machine is 250 kg. (550 lbs.), and a top speed of 120 km. (75 m.p.h.) is expected.

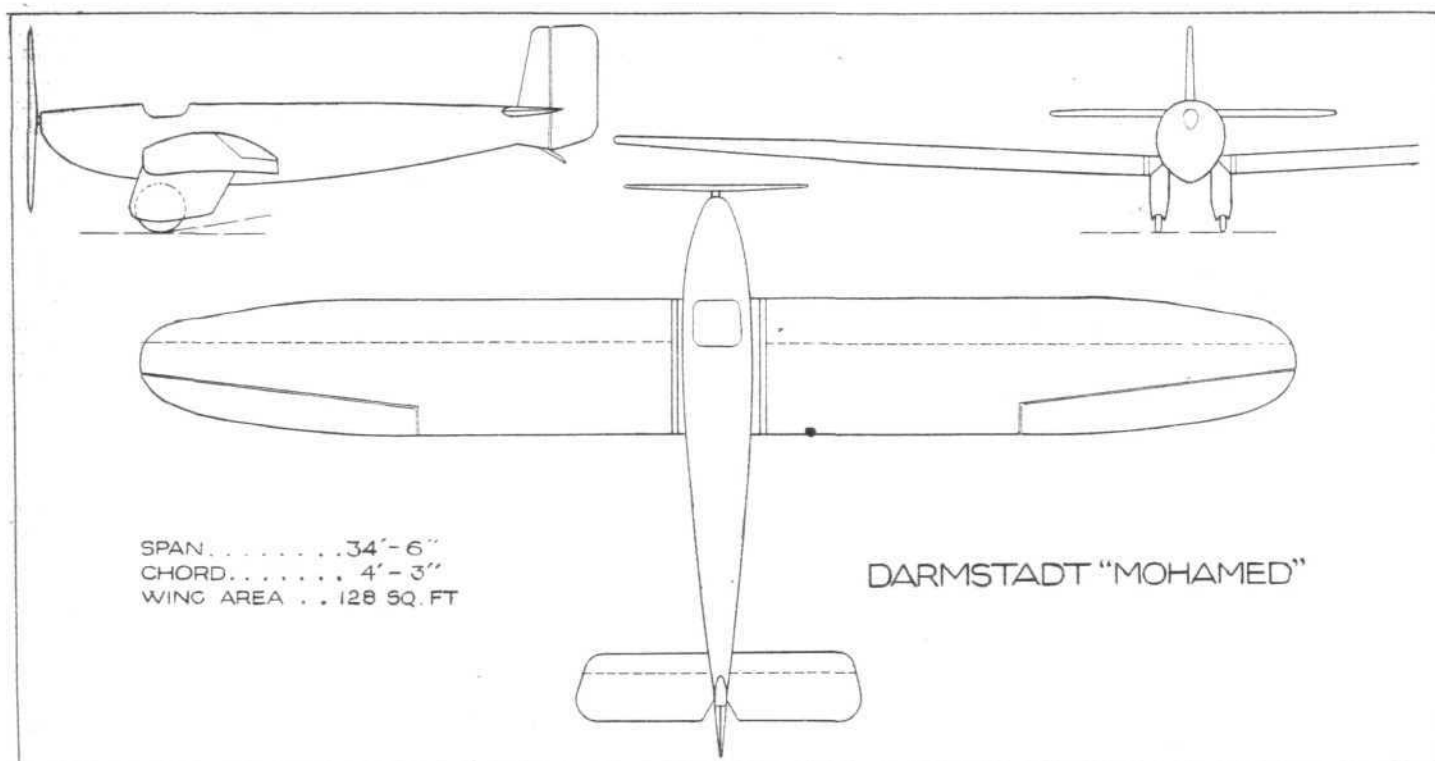
### The Dietrich Machines

Known until recently as the Dietrich-Gobiet Flugzeugwerke, the name of this firm has now been changed to Dietrich, of Cassel. The machines entered by this firm belong to two types that have already become well and favourably known throughout Germany, i.e., the D.P.IIA biplane and the D.P.VIIA monoplane. One of the biplanes will be piloted by Herr Richard Dietrich himself.

The D.P.IIA was the first machine to be produced by the Dietrich works, and has a certain resemblance to the Fokker biplane, especially those of the D.VII type. It is a small-span biplane with cantilever wings, but has inter-plane struts for resisting torque. The wings are of totally different construction from that of the Fokker, having normal spars and ribs and being covered with fabric.

The fuselage is of the welded-steel tube type of construction, with diagonal bracing wires somewhat after the style of the





THE DARMSTADT "MOHAMED": General arrangement drawings.

Fokkers. The engine fitted is a Siemens seven-cylinder, radial air-cooled of 70-80 h.p. The petrol tank is situated in the fuselage, and contains enough petrol for 4½ hours' flight at full power. The main dimensions of the D.P.IIA are: Length, o.a., 5.97 m. (19 ft. 7 ins.); span, 7.2 m. (23 ft. 7 ins.); wing area, 16.32 sq. m. (175 sq. ft.). The weight of the machine empty is 420 kgs. (925 lbs.); useful load, 240 kgs. (528 lbs.); total loaded weight, 660 kgs. (1,453 lbs.); top speed, 140 km./h. (87 m.p.h.); landing speed, 70 km./h. (46 m.p.h.); and ceiling, 3,200 m. (10,500 ft.).

The D.P.VIIA is somewhat similar to the D.P.IIA as regards its fuselage, which is of similar construction, but it is a parasol

machine of an aerodynamic efficiency approaching that of gliders, or, at any rate, of the most efficient light 'planes. This machine, the A.16, was designed as a small commercial machine, and that it is efficient will be gathered when we say that with an engine of 75 h.p. it carries a pilot and three passengers; in other words, a power expenditure of about 19 h.p. per occupant. Even at that the performance is quite good, the top speed being 135-140 km./h. (84-87 m.p.h.). With the high-power loading it might be expected that the climb would not be particularly good, but we understand an altitude of 3,000 m. (9,800 ft.) is reached in 14 minutes, which is certainly not bad.



The Dietrich parasol monoplane, type D.P. VIIA, is fitted with 55 h.p. Siemens engine.

monoplane and has a five-cylinder Siemens radial engine of 60 h.p. This machine, it may be remembered, was exhibited at the Prague Aero Show last year. The monoplane wing is carried by N-struts. The wing is built in two halves so as to facilitate transport.

The dimensions of the D.P.VIIA are: Length, o.a., 6.02 m. (19 ft. 8 ins.); span, 9.66 m. (31 ft. 8 ins.); height, 2.22 m. (7 ft. 4 ins.); wing area, 14 sq. m. (150 sq. ft.). The empty weight is 385 kgs. (850 lbs.); useful load, 225 kgs. (495 lbs.); total loaded weight, 610 kgs. (1,345 lbs.); top speed, 140 km./h. (87 m.p.h.); landing speed, 60 km./h. (37.5 m.p.h.); and ceiling, 3,200 m. It might be mentioned that both types of Dietrich machines have been used extensively for "stunt" flying, for which purpose they have become extremely popular.

#### Focke-Wulf Flugzeugbau

It is now some two years ago that a new German aircraft firm somewhat startled the world by producing a commercial

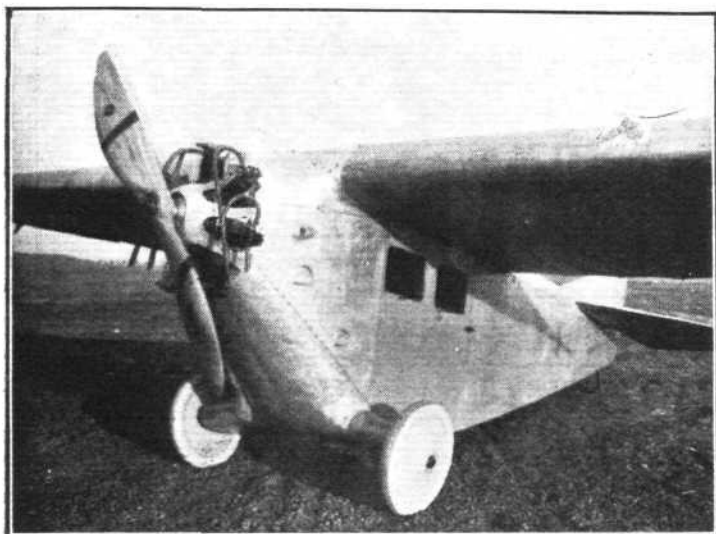


The Dietrich D.P. IIA biplane is of slightly greater power than the monoplane, being fitted with a Siemens 75 h.p. engine.

Just recently a modified version has been prepared which is very similar in general design to the original A.16, but is fitted with a 100 h.p. Mercédès in place of the original 75 h.p. Siemens radial. Owing to the considerably greater weight of the Mercédès, the new type, the A.16A, carries a not much greater useful load, but it is thought that the reliability should be considerably greater.

For the Round-Germany flight the Focke-Wulf firm has entered one machine of each type, but there will be five of their machines in the competition, as other companies have entered machines of Focke-Wulf construction. One of the machines entered by this Company will be piloted by Herr Georg Wulf himself.

With the exception of minor changes in detail, the construction of both types of Focke-Wulf is the same, and the following notes, unless otherwise stated, may therefore be



The Focke-Wulf A.16 is, perhaps, one of the most efficient German commercial aeroplanes. It is fitted with a Siemens 75 h.p. engine.

taken to refer to both machines. The fuselage, which is of rectangular section, is built entirely of wood, and is exceptionally deep so as to give sufficient headroom in the cabin. Owing to the small height of the bottom of the fuselage above the ground it is possible for passengers to step right into the cabin without having to use steps. As the wing is placed on the top of the fuselage, the view from the cabin windows is particularly unrestricted in a downward direction. The pilot's seat is above and in front of the cabin, the coaming around his cockpit being, in fact, in the leading edge of the wing.

The monoplane wing itself is built as a pure cantilever in order to reduce head resistance, and the wing section used is one of the well-known Göttingen sections. The wing is of tapered thickness as well as plan form. On top it is faired into the top of the fuselage so as to cause as little disturbance in the air flow as possible. The ailerons are not of exceptionally large size, but are stated to be very effective.

The under-carriage is of very simple form, and consists of two wheels mounted on axles which are housed inside the streamline wing roots growing out of the fuselage near the bottom. Every endeavour has been made to suppress all parts which could increase head resistance, and, doubtless, this accounts in a great measure for the efficiency of the Focke-Wulf machines.

The A.16A differs from the earlier type partly in dimensions and partly in seating accommodation, etc. In the latest model, the pilot sits at the side of and behind the engine. The increase in the cabin width can, if desired, be made use of by fitting an extra seat for a fourth passenger. In the A.16A there are two petrol tanks carried in the centre section of the wing, so that there is no fuel carried in the fuselage itself, a fact which should greatly reduce fire risk.

The main particulars of the Focke-Wulf A.16 are as follows:—Length, o.a., 8.5 m. (27 ft. 11 ins.); span, 13.9 m. (45 ft. 6 ins.); wing area, 27 sq. m. (290 sq. ft.). Weight of machine empty, 570 kg. (1,250 lb.); useful load, 400 kg. (880 lb.); total loaded weight, 970 kg. (2,130 lb.). The speed and climb



A development of the type A.16 is the Focke-Wulf A.16A, which has a 100 h.p. Mercédès engine. Yet another development is the A.16b, which is fitted with a Junkers L. 1a engine of 78 h.p.

have already been given, but it may be added that the tank capacity is sufficient for about four hours, and that the range of the machine is approximately 550 km. (345 miles).

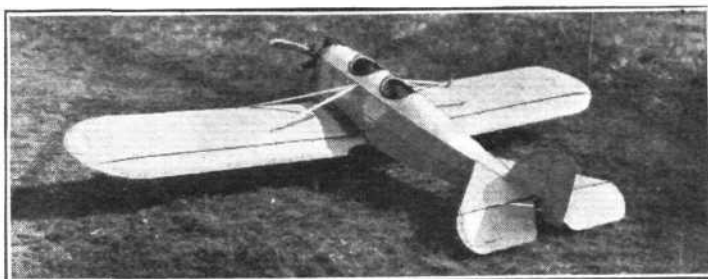
The A.16A has the same wing span and wing area, but is slightly longer, being 9.1 m. (29 ft. 11 ins.). With the 100 h.p. Mercédès engine, the weight empty is 760 kg. (1,670 lb.), and the useful load, 441 kg. (970 lb.), giving a total loaded weight of 1,201 kg. (2,640 lb.). The top speed of this machine is in the neighbourhood of 150 km./h. (93 m.p.h.). To climb 2,000 m. occupies 13 mins., and the ceiling is 3,000 m. (9,800 ft.). Duration, 3½ hours and range 500 km. (310 miles).

#### The Heinkel Machines.

The Ernst Heinkel Flugzeugwerke of Warnemünde will be represented by no less than four different types of Heinkel machines, some entered by the Heinkel firm and some by other firms or by private individuals. One of the Heinkel types has already been described in *FLIGHT*, i.e., the H.E.18 low-wing monoplane, an illustrated description of which appeared in our issue of March 26, 1925. For the convenience of our readers, we are reproducing a three-quarter rear view of this machine herewith, but for a detailed description we must refer readers to the issue mentioned above. It may be mentioned that the H.E.18 is produced, both as an aeroplane and as a seaplane. The length of the H.E. 18 is 7.2 m. (23 ft. 7 ins.) and the span, 11.1 m. (36 ft. 5 ins.); total wing area, 180 sq. ft.; weight of machine, empty, 380 kg. (836 lb.); useful load, 220 kg. (484 lb.); total loaded weight, 600 kg. (1,320 lb.); top speed, 150 km./h. (93.7 m.p.h.); cruising speed, 140 km./h. (87 m.p.h.); climb to 1,000 m. in 6 mins.

The Heinkel H.D.21 is a small two-seater biplane normally fitted with 100 h.p. Mercédès engine. As this machine is shown in the accompanying photograph and scale drawings, there is little need to give a lengthy description of its general lines. Attention may, however, be called to the fact that the wing bracing has only one lift wire and one anti-lift wire on each side.

The fuselage, of the flat-sided type, is built entirely of wood, and covered with three-ply. The Mercédès engine is



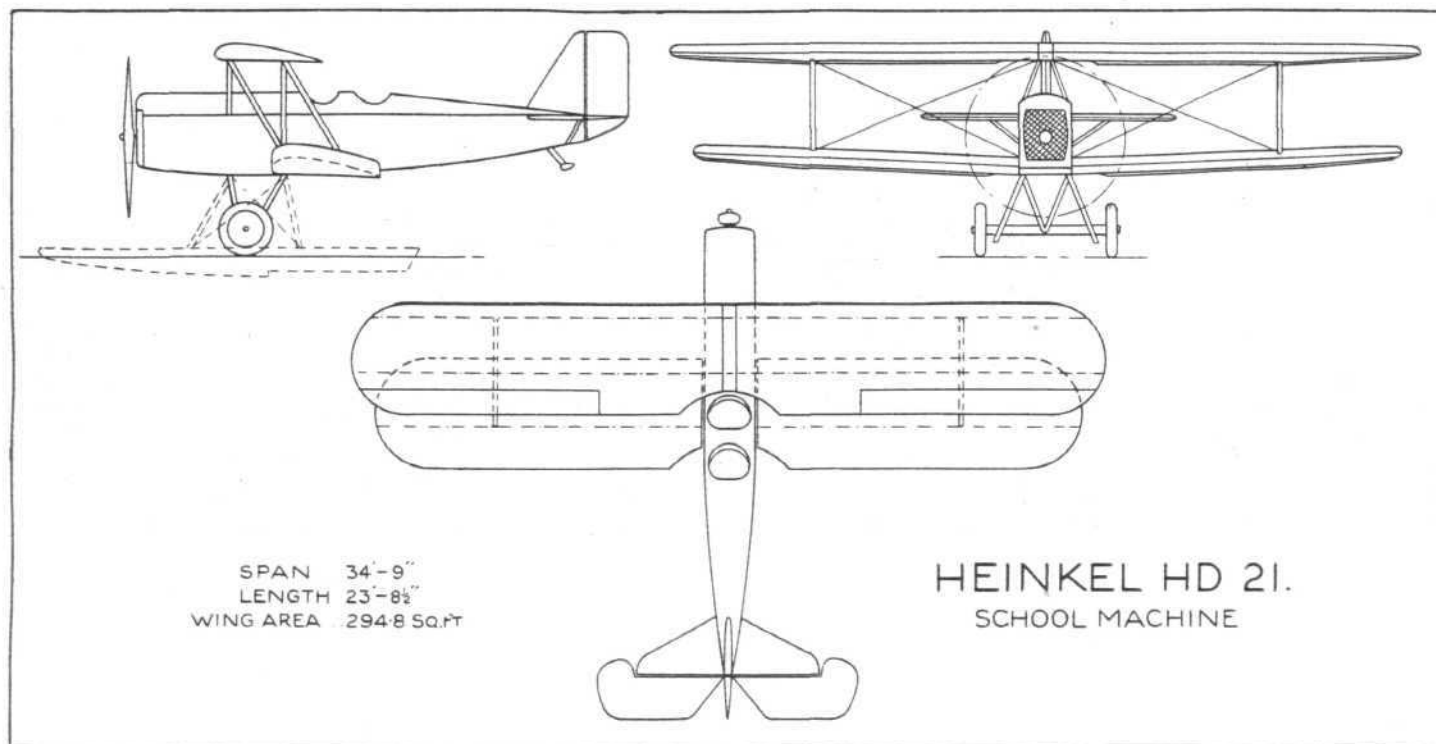
The Heinkel H.E. 18 is a low-wing monoplane with strut bracing. The engine is a Siemens.

mounted on a framework of steel tubes bolted to suitable fittings on the nose of the fuselage proper. The two petrol tanks are carried in the top centre-section, so that direct gravity feed is used and no petrol pumps required. The biplane wings are of normal strength, and the stagger has been so chosen as to bring the rear-spar of the top plane vertically above the front spar of the bottom plane. It is claimed that this arrangement has made the use of the single set of bracing wires possible.

The under-carriage is a very rigid structure of streamline steel tubes, the front struts forming the letter "M" in front



The Heinkel H.D. 21 : Three-quarter rear view.



THE HEINKEL H.D. 21 : General arrangement drawings, to scale.

elevation, with a divided axle running across their lower ends.

The main dimensions of the Heinkel H.D.21 are :—Length, o.a., 7.25 m. (23 ft. 10 ins.) ; span, 10.6 m. (34 ft. 7 ins.). When fitted with 120 h.p. Mercedes, the empty weight is 710 kg. (1,560 lb.), and the useful load, 270 kg. (590 lb.), giving a total loaded weight of 980 kg. (2,150 lb.). The top speed is 140 km./h. (87 m.p.h.), and the climb to 2,000 m. occupies 5 mins., while an altitude of 3,000 m. is reached in 28 mins.

#### Hellmuth Hirth Versuchsbaue

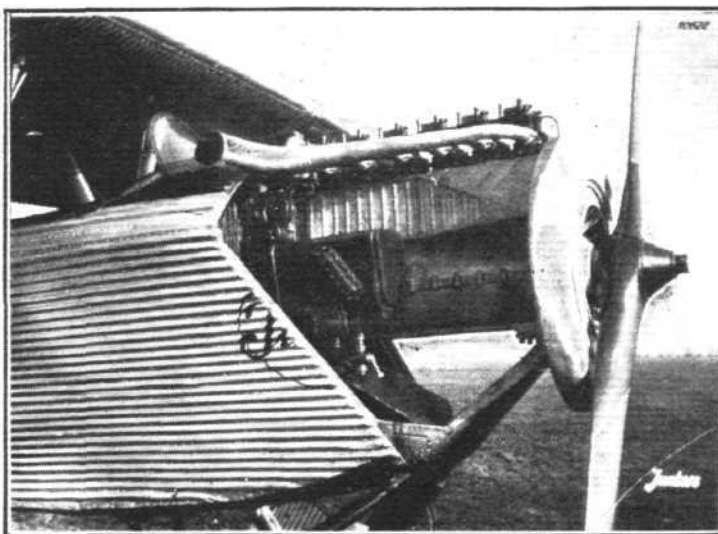
At the moment considerable mystery surrounds the machines entered and built by this firm. The only thing that is known is that they are all monoplanes and are fitted with Hirth engines, some of 20 h.p. and some of 40 h.p. The name Hellmuth Hirth is, of course, famous in Germany, as Hellmuth Hirth was one of the most famous of the early German pilots. Of recent years, however, little has been heard of him, outside Germany at any rate. The title of the firm denotes experimental works, so that perhaps the famous German pilot is now becoming a constructor, although apparently in an experimental way only. His machines will be watched with considerable interest, and we hope to be able to give photographs and particulars next week.

#### The Junkers Machines

The famous German firm of Junkers-Luftverkehr A.-G., of Dessau, will be represented in the Round-Germany Competition by no less than eight machines, six of which are of their own manufacture, the other two being Focke-Wulf monoplanes fitted with Junkers L.I.A engines of 78 h.p. As a description of the Focke-Wulf machines has been given elsewhere, there is no need to refer to them here except to mention that the Junkers engine is fitted.

Of the six Junkers machines entered four are of well-known types, while the remaining two are of a type specially designed for the Round-Germany flight. Two machines of the

K.16 type have been entered and two of the T.26 type. Both of these have previously been illustrated and described in *FLIGHT*. The K.16 is a small commercial monoplane with high cantilever wing, and with seating accommodation for two passengers only in a small cabin. The pilot's seat is ahead of the cabin and just in front of the leading edge of the wing. Like all Junkers machines the K.16 is built entirely of metal, mostly Duralumin, but with a few steel fittings for highly stressed parts. Corrugated Duralumin is used for the covering of fuselage and wing. The engine is a Siemens



The Junkers L.1 air-cooled engine as installed in the Junkers T.26 aeroplane.



The latest Junkers monoplane. This machine has been specially designed for the Round-Germany competition. It is fitted with a Junkers engine.

radial of 75 h.p. The main characteristics of the K.16 are : Length o.a., 8 m. (26 ft. 3 ins.) ; span, 12.8 m. (42 ft.) ; wing area, 19 sq. m. (204 sq. ft.). Weight, empty, 535 kg. (1,175 lbs.) ; useful load, 315 kg. (690 lbs.) ; total loaded weight, 850 kg. (1,865 lbs.). The top speed is 150 km.-h. (93 m.p.h.), and the cruising speed is 120 m./h. (75 m.p.h.). No figures relating to the landing speed are available. The ceiling is approximately 2,500 m. (8,200 ft.).

The T.26 is a parasol monoplane, but as distinct from the K.16 it has a fuselage with open cockpits and is mainly intended for school work. The construction is similar to that of the K.16 in that it is entirely of metal, although some of the members are of slightly different form. The engine fitted in the T.26 is a Junkers L.I.A of 78 h.p. This engine, although air-cooled, is of the vertical type, cooling being facilitated by mounting in the nose of the fuselage ahead of the engine



a blower which forces air through special ducts or passages to the hot cylinder heads. The machine and engine were first exhibited at the Gotenburg Show in 1923, when it was described in *FLIGHT*, but since then little has been heard of it in this country. It will be interesting to see how this type of air-cooled engine behaves in the stiff tests provided by the Round-Germany flight.

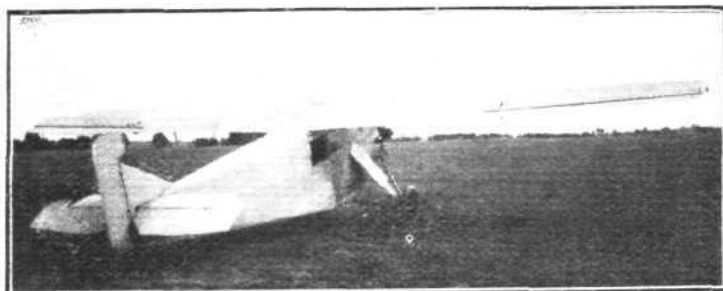
The main characteristics of the Junkers T.26 are: Length o.a., 7.54 m. (24 ft. 10 ins.); span, 13.15 m. (43 ft.); wing



The Junkers T.26 is an all-Duralumin parasol monoplane with Junkers engine.

area, 21.5 sq. m. (231 sq. ft.); weight, empty, 500 kg. (1,100 lbs.); useful load, 230 kg. (505 lbs.); total loaded weight, 730 kg. (1,605 lbs.). The top speed is approximately 130 km./h. (181 m.p.h.); and the landing speed 80 km./h. (50 m.p.h.). The ceiling is 3,200 m. (10,500 ft.).

The third type of Junkers machine which will be represented in the competition has, as already mentioned, been specially designed for the purpose, and will be taking part in two examples. Not unnaturally, the Junkers firm are somewhat discreet in the matter of sending out information about this type before the start of the competition, but this much is



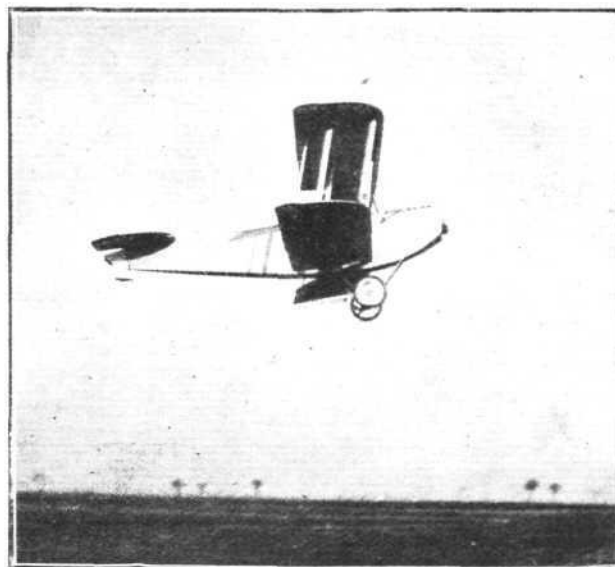
The Junkers K.16 is a small cabin monoplane with accommodation for two passengers. The engine is a Siemens.

known that the T.29 is a low-wing monoplane designed for school and sport flying. The construction is, of course, of metal, and some idea of the appearance of the T.29 may be gained from the accompanying front view, which we have been fortunate enough to obtain from the makers. The engine is a slightly higher-powered type of Junkers known as the L.I.B., which is rated at 85 h.p., so that, presumably, the T.29 will belong to the B Class in the competition. At the moment no dimensions or particulars are available.

#### Luftfahrzeug-Gesellschaft

The Luftfahrzeug-Gesellschaft, whose works are at Stralsund, is, like the Albatros Works, one of the oldest firms in Germany, but for some years has not been, perhaps, quite so prominent as during the years preceding the War. Lately, however, the firm seems to have revived somewhat. Quite a number of L.F.G. machines are entered for the Round-Germany flight, the types being the V.39, V.40, V.42, V.44, and the V.52, but the types V.42 and V.52 were not completed in time for photographs to reach us before going to press with this week's issue of *FLIGHT*.

Taking the machines in the order of their series numbers: the V.39 is a school biplane designed for either a 100 h.p. or 120 h.p. Mercedes engine. The flat-sided fuselage is built entirely of wood with three-ply covering. The wings are of the usual two-bay biplane form, and are of usual construction with box-spars and three-ply ribs. The covering is fabric. The V.39 has not been designed so much with the object of great carrying power or high speed in view, as for reliability and



The L.F.G. V.39 school biplane taking off.

robust construction, such as is important in machines to be used for school work. The machine is stated to be extremely easy to fly and to have a very low landing speed. Its main dimensions are: Length o.a., 7.85 m. (25 ft. 10 ins.); span, 12 m. (39 ft. 4 ins.); wing area, 40 sq. m. (430 sq. ft.). The weight empty is 8,045 kg. (1,770 lbs.); useful load, 285 kg. (630 lbs.); total loaded weight, 1,130 kg. (2,400 lbs.). The top speed is 125 km./h. (78 m.p.h.), and the landing speed 55 km./h. (34 m.p.h.). The ceiling is 3,800 m. (12,500 ft.); and the climb to a 1,000 m. occupies eight minutes.

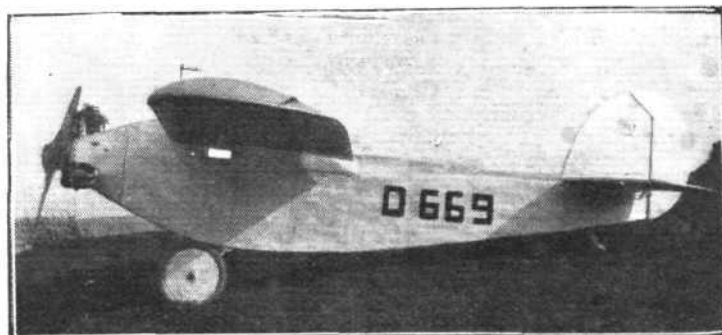
The V.40 is a metal machine, both the fuselage and wings



The L.F.G. type V.40 high-wing monoplane is of very clean design. The engine is a Siemens 75 h.p. radial.

being built entirely of metal, mainly of duralumin. Highly stressed parts are, however, built from Krupps rustless steel. The machine is a pure cantilever monoplane with the pilot's cockpit in front in the forward portion of the wing and with the passenger's cockpit aft of the wing, the trailing edge being cut away to improve the view.

Constructionally the L.F.G. V.40 follows Dornier practice rather than Junkers' in that the metal covering is perfectly smooth and not corrugated as in the Junkers'. The 75 h.p. Siemens radial engine is mounted on the nose of the fuselage



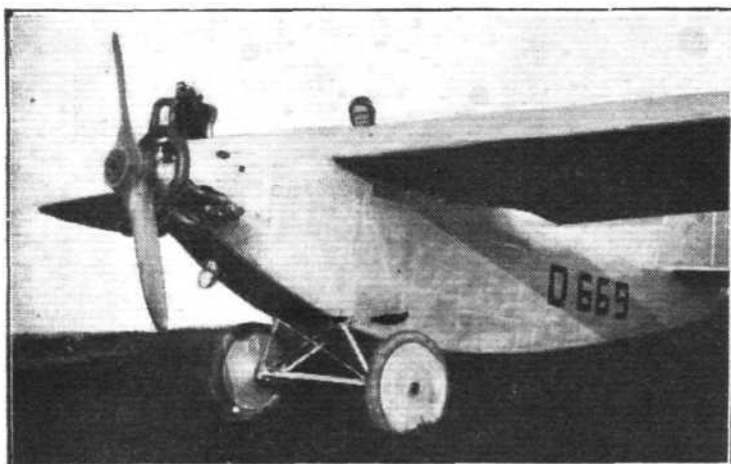
The L.F.G. V.44 is very similar to the V.40, but is fitted with a Bristol "Lucifer" engine.

without any cowling. The L.F.G. V.40 has a span of 11.4 m. (37 ft. 5 ins.); a wing area of 18 sq. m. (194 sq. ft.), and a total loaded weight of 829 kg. (1,825 lb.). The top speed is stated to be 150 km./h. (93 m.p.h.), with a landing speed of 75 km./h. (46 m.p.h.).

The V.42 is somewhat similar in appearance to the V.40, but is a somewhat larger machine and fitted with a 100 h.p. Mercedes engine. Like the V.40 it is an all-metal cantilever monoplane, the wing span being 12.6 m. (41 ft. 4 ins.), and the wing area 24 sq. m. (258 sq. ft.).

The total loaded weight is 1,069 kg. (2,350 lbs.). The top speed is 145 km./h. (90 m.p.h.), and the landing speed 68 km./h. (43 m.p.h.).

The V.44 is of the same o.a. dimensions and exactly similar to the V.40, but it is of particular interest to readers of FLIGHT on account of the fact that it is fitted with a



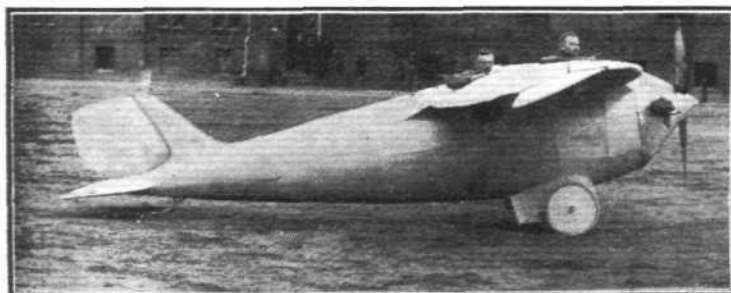
The Bristol "Lucifer" engine in the L.F.G. V.44.

Bristol "Lucifer" engine of 100 h.p. The photograph of the V.44 and of the installation of the Bristol "Lucifer" will be found herewith.

In the V.52 Herr Baatz has returned to wood construction, as he maintains that the question nowadays is not metal or wood, but rather which types it pays to build in wood and which in metal. The V.52 is a small semi-cantilever monoplane with 55 h.p. Siemens engine. The fuselage is ply-wood covered and the wing is built up of box-spars and three-ply ribs with fabric covering. Like the other L.F.G. machines, the V.52 is a two-seater and has a wing span of 10 m. (32 ft. 10 ins.), and a wing area of 13.28 sq. m. (143 sq. ft.). The estimated top speed is 145 km./h. (91 m.p.h.), and the landing speed 60 km./h. (37.5 m.p.h.).

### The "Spandau"

The machine entered by the Flugtechnischer Verein Spandau was designed by the technical chief of this Society, Herr Ing. Kurt Krokowski, and was constructed under his direction by members of the Society. Like the Darmstadt "Mohamed" it is, therefore, entirely a private effort and as such deserves every encouragement. Both fuselage and wing are largely of three-ply wood construction, and the machine is a pure cantilever light monoplane two-seater. The two halves of the wing are attached by tubular bolts to short wing



Side view of the Flugtechnischer Verein "Spandau" monoplane. The engine is a Haacke of 30 h.p.

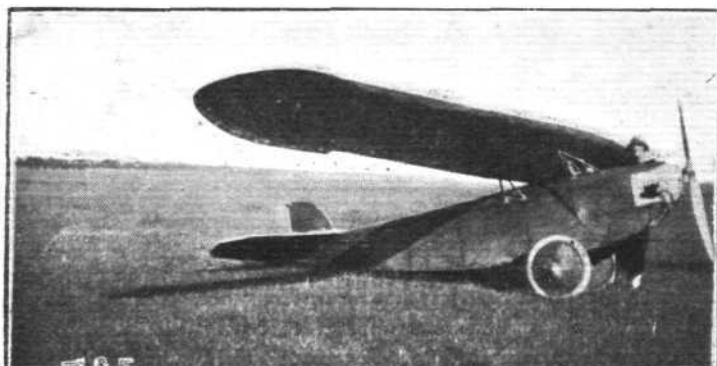
roots integral with the fuselage, and may be dismantled by simply undoing the bolts. The fuselage is of streamline form, and the various members such as wing roots, vertical fin and undercarriage legs, are carefully faired into the fuselage covering. The power plant is a 30 h.p. two-cylinder Haacke

air-cooled rated at 30 h.p. The span of the machine is 11.4 m. (37 ft. 5 ins.), and the overall length 5.7 m. (18 ft. 9 ins.). The wing chord at the root is 1.8 m. (5 ft. 11 ins.), and at the tips is 0.6 m. (1 ft. 11 ins.). The wing area is 13 sq. m. (140 sq. ft.). The top speed is approximately 130 km./h. (80 m.p.h.), and the low speed is 60 km./h. (37 m.p.h.). The side view of the "Spandau" is given herewith and a three-quarter front view of the machine was published in our issue of May 14, 1925.

### Udet-Flugzeugbau G.M.B.H.

Although one of the younger German firms, the Udet works of Munich have shown quite surprising energy since the foundation of the firm a few years ago. In the Round-Germany flight a considerable number of machines are entered, most of which have been described in FLIGHT from time to time. At least one new type has been produced for the competition, and curiously enough this is a biplane, the U.12—so far as we are aware, the first biplane to be produced by this firm.

To deal with the Udet machines in the order of their



The Udet U.7 ("Kolibri") has a British Douglas engine.

series numbers, the U.7 is a light monoplane with British Douglas engine. The machine has previously been described and illustrated in FLIGHT, and is shown again this week in a photograph and a set of general arrangement drawings. The fuselage is of the ply-wood covered type, and the cantilever monoplane wing is mounted parasol fashion above the fuselage, on pyramids formed by streamline steel tubes, so that the pilot sits under the wing, where, consequently, he has an excellent view in all directions except straight upwards.

Already the U.7 ("Kolibri") has several excellent performances to its credit, and it may be expected to do well in the competition. Its main dimensions are: Length o.a., 5.47 m. (17 ft. 11 ins.); span, 10 m. (32 ft. 10 ins.); wing area, 12.5 sq. m. (134 sq. ft.). The weight empty is 150 kg. (330 lbs.); useful load, 100 kg. (220 lbs.); total loaded weight 250 kg. (550 lbs.). The top speed is 120 km./h. (75 m.p.h.) and landing speed 50 km./h. (31 m.p.h.).

The Udet U.8, which has also been previously described in FLIGHT, is a commercial monoplane of very clean design.



The Udet U.12 ("Flamingo") is believed to be the first biplane built by the Udet firm. The engine is a Siemens.

This also is shown in a photograph and by scale drawings. The ply-wood covered fuselage is of streamline form, and the cabin has seating accommodation for three passengers.

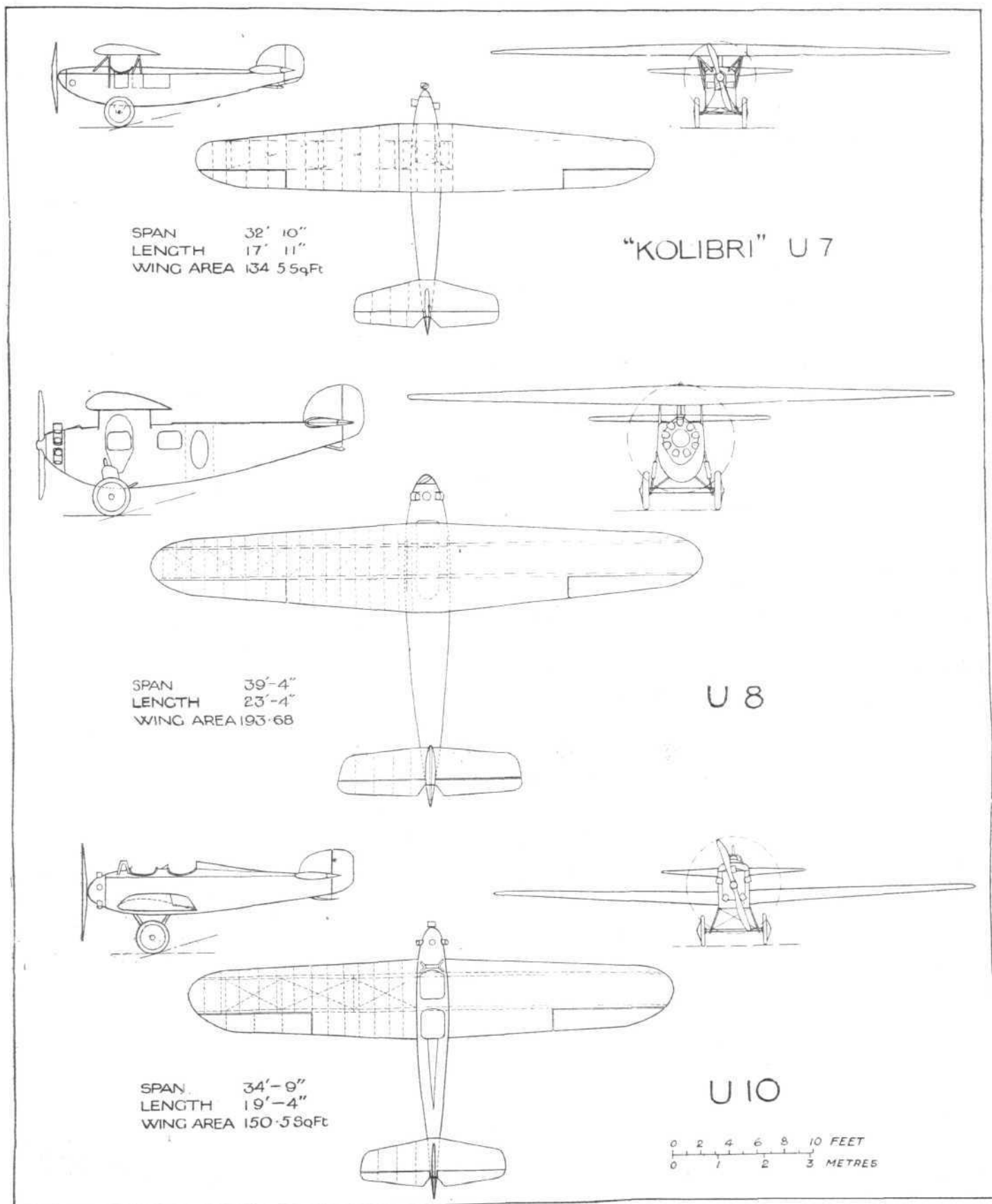
The pilot's cockpit is in front of and above the cabin.

The cantilever monoplane wing is mounted on two streamline panels growing out of the top of the fuselage. Normally the U.8 is fitted with 100 h.p. Siemens radial engine, but in the Round-Germany flight at least one of the machines will be fitted with 100 h.p. Bristol "Lucifer." The photograph of the U.8 published herewith shows the machine with the Siemens engine.

The dimensions of the U.8 are: Length o.a. 7·12 m. (23 ft. 4 ins.); wing span, 12 m. (39 ft. 4 ins.); wing area, 18 sq. m. (193·7 sq. ft.)

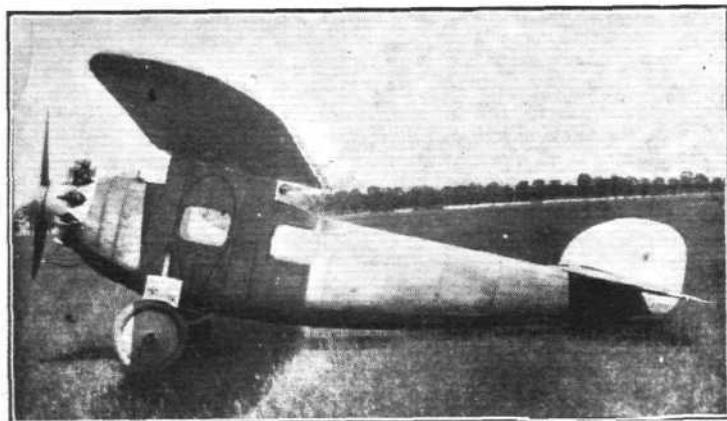
The following figures of weight and performance relate to the machine as fitted with Siemens engine, but, presumably, do not differ very greatly from the Bristol-engined machine. Weight empty, 490 kg. (1,080 lbs.); useful load, 370 kg. (815 lbs.); total loaded weight, 860 kg. (1,895 lbs.). The top speed is 170 km./h. (106 m.p.h.), and the cruising speed 140 km./h. (87 m.p.h.). The climb to a 1,000 m. occupies 13½ minutes, and the ceiling is 3,000 m. (10,000 ft.).

The U.10 represents the type of machine with which the Udet firm started, it being a low-wing cantilever monoplane.



General arrangement drawings of three Udet machines entered for the Round-Germany Flight : The types represented are : The U.7 "Kolibri" light monoplane, the U.8 commercial monoplane, and the U.10 low-wing sports monoplane.





**The Udet U.8 is a commercial monoplane with Siemens engine.**

It is designed as a two-seater, with fairly high performance, the wing loading being relatively high. Like the other Udet machines the fuselage is plywood-covered, while the wings are of normal fabric-covered construction. The photograph and scale drawings give sufficient idea of the appearance of the machine; it suffices to mention that the engine is a five-cylinder Siemens radial of 55 h.p. The dimensions of the U.10 are: Length o.a., 5.9 m. (19 ft. 4 ins.);



**The Udet U.10 low-wing monoplane is designed for sport flying, and has a Siemens engine.**

span, 10.6 m. (34 ft. 9 ins.); wing area, 14 sq. m. (150.5 sq. ft.). The weight empty is 315 kg. (693 lbs.), and the useful load 255 kg. (562 lbs.); total loaded weight, 570 kg. (1,255 lbs.). The top speed is 155 km./h. (96½ m.p.h.), and the climb to 1,000 m. occupies six minutes.

The new Udet U.12, as already stated, is a biplane, and is shown in one of our photographs. The standard machine

is mainly intended for preliminary school work, and is, therefore, fitted with dual control, so arranged that either set of controls can be disconnected according to whether the instructor occupies the front or the rear seat. In this connection it is of interest that when one set of controls is disconnected the other is automatically brought into gear, so that one set is always working.

As the photograph will show, the biplane wings are of normal type with a single I-strut on each side and cable bracing. It may be mentioned that the machine is produced in several types, according to the purpose for which it is intended, commencing with the original type, which has large wing area and high lift section, and then the second type with low lift section, and finally for completing training and for use in "refresher courses," a set of smaller wings is supplied. The engine is a Siemens radial of 80 h.p. mounted on steel structure which is secured to the fuselage proper by four bolts, and can easily be dismantled. The petrol tanks are mounted in the top centre section so that direct gravity feed may be employed.

#### Other Machines

Although in the main the German aircraft constructors have assisted us greatly by sending us data relating to their machines, there are some from whom we have not been able to obtain any information. We hope, however, to be able to publish next week photographs of most of such competing machines as have had to be omitted from the list given above.

Among the societies which have entered machines is the Flugtechnische Verein of Lubeck, who have constructed and entered two parasol monoplanes with Siemens 55 h.p. radial engines. One of the machines has been christened "Adler von Lubeck," and the other "Hans Unverfeert."

The well-known Rhön pilot Herr Arthur Martens, who is now running a flying school in the Rhön, will be represented by two "Windhund" monoplanes similar to last year's Rhön machines, and fitted with British A.B.C. "Scorpion" engines. A third machine named the "Motoritz" is believed to be somewhat similar to Martens' "Moritz" glider, but will be fitted with a 12 h.p. Prussing engine.

The Messerschmitt company of Bamberg, also well known in connection with the Rhön, will be represented by two monoplanes of the M.17 type, which will be fitted with A.B.C. "Scorpion" engines. Beyond this fact, however, nothing is at present known about them, except that one will be piloted by the famous pilot Hackmack.

The Stahlwerk-Mark company has entered several machines, as have also the Rieseler brothers. It will be remembered that the Stahlwerk-Mark firm exhibited at Gothenburg some Rieseler monoplanes, but it is not known whether the Rundflug machines will be of Rieseler design.

In conclusion it is of interest to note that a considerable number of British engines are to be used, the firms represented being Bristol, Douglas, Blackburne, and A.B.C.

## THE NORTH POLE FLIGHT

WEATHER conditions having improved, on May 21, at 5.15 p.m., Captain Amundsen left King's Bay, Spitzbergen, on his flight to the North Pole. Capt. Amundsen's machine—an Italian-built "Dornier" flying-boat, fitted with two Rolls-Royce "Eagle" IX engines—was the first to get away, followed by the second sister machine, with Lieutenant Dietrichsen in charge. Other members of the expedition are Mr. Lincoln Ellsworth and Lieutenants Riiser-Larsen and Omdhal. It was stated originally that the flight should take eight or nine hours to accomplish, and it was apparently Amundsen's intention to land at the Pole, if possible, for about 24 hours and then return to Spitzbergen. In that event he should have been back at noon on Saturday, May 23, but up to the time of writing no news has been received of Amundsen and his companions—for it should be pointed out that at the last moment the wireless equipment was dis-

carded in favour of extra fuel. Immediately after the flight started the two attending ships, the "Hobby" and the "Farm," sailed northwards in order to patrol the ice edge and keep a look-out for the explorers. It is stated that there is a possibility of Amundsen landing at the Pole and prolonging his stay there, and may yet, therefore, return at any moment. On the other hand, it is possible that some disaster may have overtaken both machines. Offers of assistance in a relief expedition have been forthcoming from several directions. The United States Government have offered to send both the "Shenandoah" and the "Los Angeles" airships to reconnoitre over the Polar regions, while Amundsen's rival in the Polar Flight, Grettir Algarsson, who intended attempting a flight to the Pole in a small airship, has offered to push forward his preparations in order to come to Amundsen's rescue.

#### The Fairey Ambulance at Work

THE Fairey ambulance seaplane, which was sent out some little time back to British Guiana for operation on the Real Daylight Balata Estates, and of which full particulars have appeared in FLIGHT, has already accomplished some useful work. Mr. Gagan, the officer in charge of the Government wireless station at Apoteri, was taken very seriously ill. The Fairey ambulance seaplane left Georgetown, carrying an officer to relieve Mr. Gagan, arrived at Apoteri and returned to

Georgetown with the sick official in six hours, covering in that time 522 miles, a journey which otherwise would have occupied some five weeks travelling by land and water. As a result, it is stated that Mr. Gagan's life has been saved.

#### A Big Russian Flight

It is reported that a squadron of six aeroplanes will attempt a flight from Moscow to Peking early next month. The machines, some of which have been built in Russia, will fly via Mongolia and the Gobi desert.

## THE BRUSSELS-CONGO FLIGHT

ALTHOUGH we have, from time to time, reported briefly in *FLIGHT* the progress made during the Brussels-Congo flight, we think the following concise facts relating to the expedition as a whole will be of interest at the present moment.

The Belgian Aviation Mission (Brussels to Kinshasa) was constituted in the early part of this year to undertake the delivery of one of the three-engined Handley Page machines from Brussels to Kinshasa, in the Belgian Congo. The machine was one of eight built by the S.A.B.C.A. (Société Anonyme Belge de Constructions Aéronautiques) at their works at Haren, near Brussels, under licence from Handley Page, Ltd. It forms one of a fleet of similar machines which is undertaking an air service between Kinshasa (Leopoldville) and Bukama, in the Belgian Congo, a distance of some 1,600 km., or nearly 1,000 miles (see *FLIGHT* for January 22 last). Some of the machines for this enterprise had, prior to the commencement of the flight, already been sent by boat, to be erected and flown in the Congo.

The machine is a replica of the Handley Page "Hamilton" type (described in *FLIGHT* for May 1, 1924), which has already been used on the service between London and Paris. It is fitted with one Rolls-Royce "Eagle" IX 360 h.p. engine, in the nose of the fuselage, and two Siddeley "Puma" engines of 240 h.p. each, one in either of the engine nacelles on each side of the fuselage. The flying range without landing is 500 km. (310 miles) with full load, and it has a cruising speed of 150-160 km. (93-99 miles) per hour. Accommodation is provided for pilot and navigator or mechanic, seats for ten passengers and large freight compartment for baggage and mail.

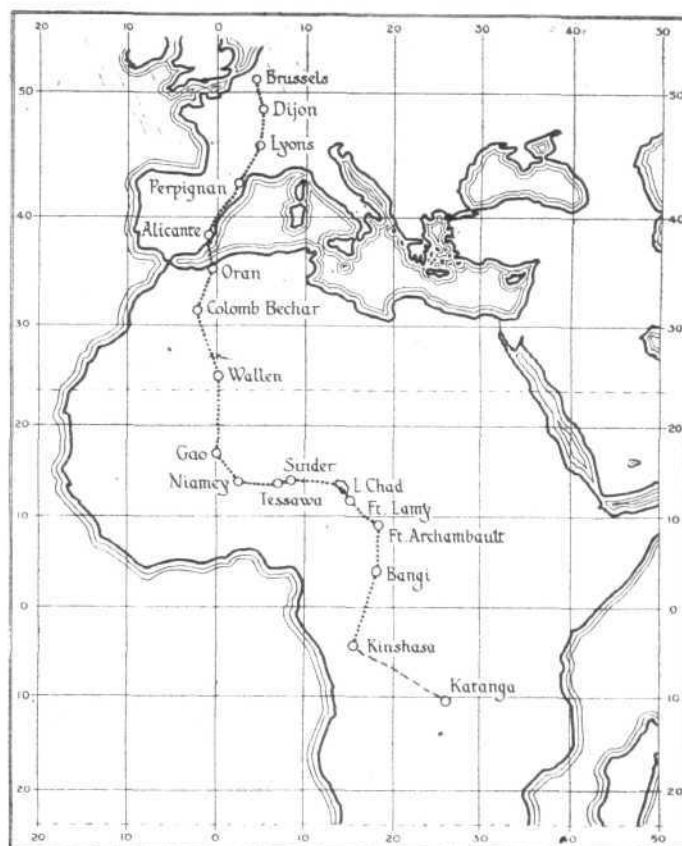
Except for the changes necessary consequent upon the installation of three engines instead of two, the general design of the machine is similar to the twin-engined type which, with two Rolls-Royce engines installed, has been in operation for some time past on the London-Paris route, one machine of the latter fleet having done 2,500 hours of flying and two others over 2,100 hours each. This is, incidentally, by far the longest period of flying that any machine has reached on civil aviation work. The members of the Mission were as follows:—Lieutenant-Aviateur Edmond Thieffry, who was in charge of the Mission and acted as the navigator. He is a lieutenant in the Reserve, and by profession a lawyer practising at the present time in the Belgian Courts. Lieutenant Thieffry served with distinction as a pilot in the Belgian Flying Corps during the War, being officially credited with ten enemy machines.

M. Leopold Roger, the pilot, who learned to fly since the War at the aerodrome of Gosselies, in Belgium.

M. Joseph De Bruycker, the mechanic, an able and experienced mechanic from the works of the S.A.B.E.N.A.

The object of the Mission was, as has been stated above, not merely to undertake a spectacular flight, but actually to deliver the machine, subsequently to be used on an air service, on reaching its destination, in the Congo. The organisation of this service was started in October, 1923, with the building of the necessary sheds and the clearing of the aerodromes. The first half of the route, from Kinshasa to Luebo—850 km.

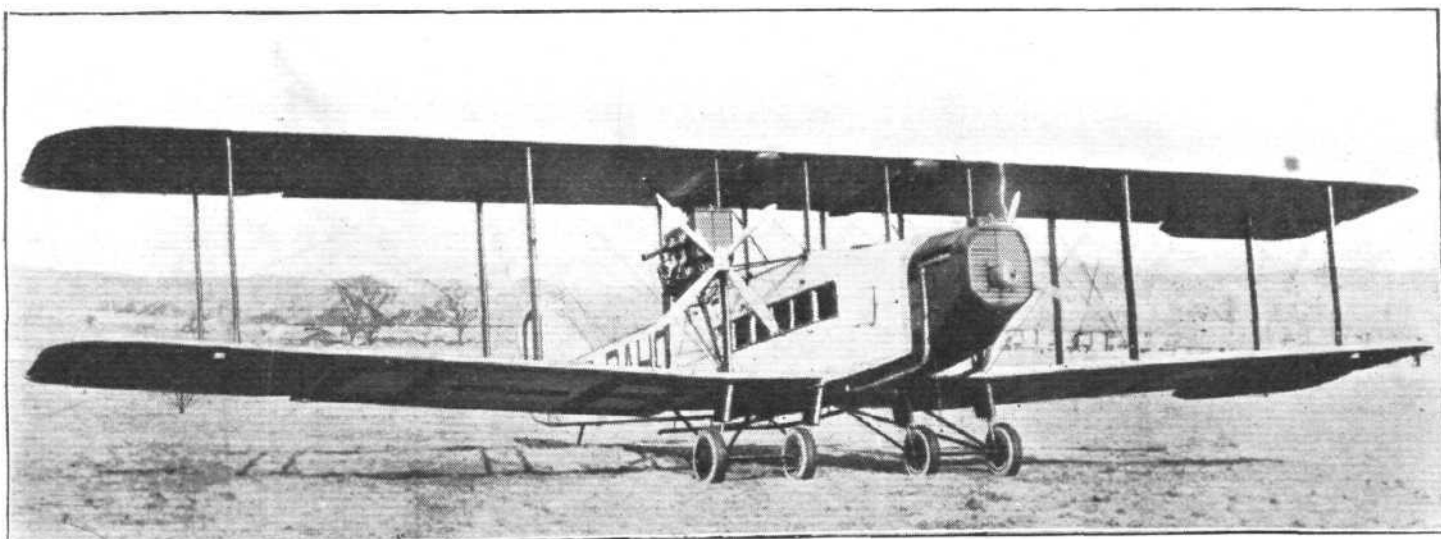
(527 miles) in length—is now completed. The remaining half from Luebo to Bukama—approximately another 700 km. (434 miles)—is now being finished. The service will work in conjunction with the departures and arrivals at Matadi of the Belgian mail steamers from Europe. Matadi is the port of the Belgian Congo, situated approximately 400 km. (258 miles) from Kinshasa. The service is operated by the S.A.B.E.N.A., the National Belgian Company for Air Trans-



THE BRUSSELS-CONGO FLIGHT: Sketch-map showing the route taken by Lieut. Thieffry and his companions, and also the Kinshasa-Katanga section over which operations have now started.

port. The latter company operates both the Belgian Line in Europe as well as the Congo Air Service. (On the European route Handley Page twin-engined machines are used between Amsterdam-Rotterdam-Brussels and Basle.)

The decision to employ this type of aircraft was made by the Belgian authorities after a study of the results achieved



THE BRUSSELS-CONGO FLIGHT: The three-engined Handley Page biplane on which the Belgian Aviation Mission flew from Brussels to Kinshasa. It is fitted with a Rolls-Royce "Eagle IX" in the nose of the fuselage, and with two Siddeley "Pumas" on the wings.



on the different air lines in Europe. A Handley Page machine, entered by Monsieur J. B. Richard—who amongst his other activities looks after the interests of Handley Page, Ltd., on the Continent—at the International Aviation Meeting held in Brussels in June, 1922, secured the first prize. Following on this success, Monsieur Richard arranged for the manufacture under licence of these machines in Belgium, and it is a great deal owing to his initiative and enterprise that British aircraft are employed on the Continent.

The Brussels-Congo machine was erected at the S.A.B.C.A. Works, the King of the Belgians paying a special visit to see it on completion. When ready to take the air, it was christened "Princesse Marie Jose" by Her Royal Highness the Princesse Marie Jose of Belgium, in the presence of a distinguished assembly, including the Ministers Carton, Forthomme, and Tschoffen. The aircraft left Brussels Aerodrome at 7.55 a.m. on Thursday, February 12, and flying across Belgium and France made its first landing at Dijon. Very bad weather was encountered in this district, and a landing was made at Lyons and Perpignan. From Perpignan the next landing was at Alicante in Spain. From Alicante they went to Oran, in Algeria, where the Mission was welcomed by the French authorities. The next stop was at Colomb-Bechar, on the edge of the Sahara. On leaving Colomb-Bechar, no further news was heard of the aircraft until a report came through from Gao, on the Niger. A landing had been made at Wallen *en route*, and a terrible storm was encountered during the crossing of the Sahara. From Gao the flight was continued to Niamey, at which place the personnel of the French Mission to Lake Chad, who were lying in hospital as a result of their accident there, were visited by Lieut. Thieffry and his companions.

It may be recollected that the French Mission, the organisation for which had been prepared in French Northern Africa, left France to fly to Lake Chad on two four-engined Blériots. One of the machines met with a fatal accident on taking off at Niamey. The French authorities very kindly placed at the disposal of the Belgian Mission all the refuelling arrangements made for the French Mission.

From Niamey the machine flew to Tessaoua, and from there to Sinder. Flying from Sinder over Lake Chad, a very thick

fog caused them to alight about 130 miles from Fort Lamy. To this post a supply of petrol had to be sent, and when it arrived the flight was continued to Fort Archambault, thence to Bangi on the upper regions of the Congo. The completion of the journey to Leopoldville (Kinshasa) was made in a day, the machine arriving at its destination on April 3. The difficulties encountered in crossing the equatorial forests were very great. A thick mist at times covered the whole country, and the temperature at midday was well over 100° in the shade. In spite of this, however, the only trouble which they had with the machine was due to the intense heat causing one of the propellers to become loose on its boss. It is a tribute to the soundness of British construction that the motors were running as well at the finish, and at the same number of revolutions, as at the start.

The Mission was received with great ovation at Leopoldville on its arrival, and the crew were recipients of the following honours:—Lieut. Av. Thieffry:—Officier de l'Ordre de Leopold, Chevalier de l'Etoile Africaine. M. Roger:—Chevalier de l'Ordre de Leopold, Chevalier de l'Ordre Royal du Lion. M. de Bruycker:—Chevalier de l'Ordre de Leopold, Chevalier de l'Ordre Royal du Lion.

Lieut. Thieffry and M. De Bruycker returned to Europe, but the pilot, M. Roger, remained to fly on the service which was started there.

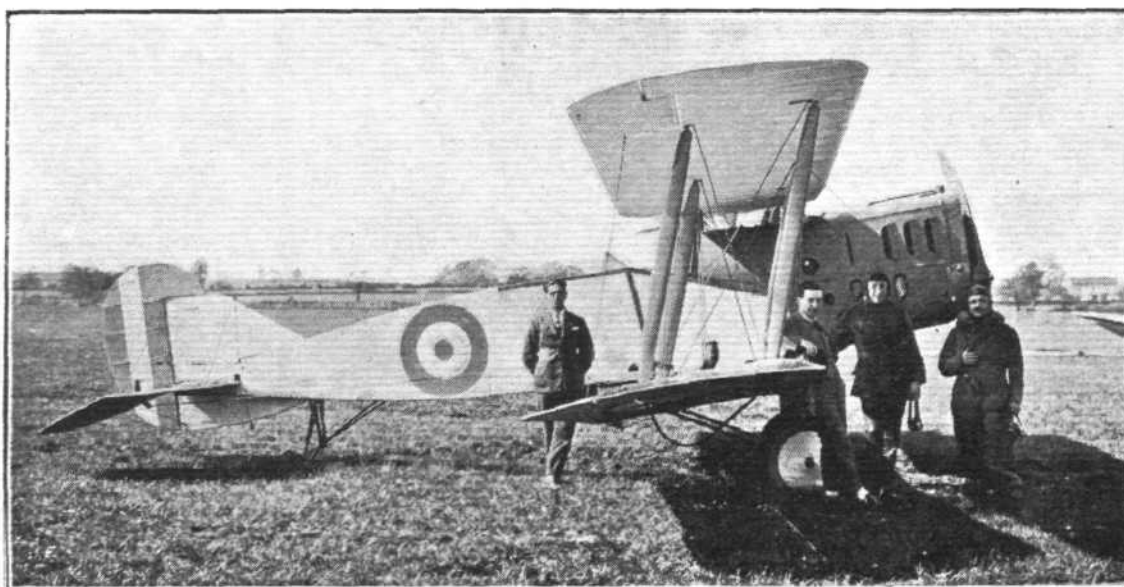
The service actually commenced on April 25, a machine flying from Kinshasa to Ilabo on the arrival of the boat at Matadi, and returning from Ilabo to Kinshasa on April 29. From then onwards a regular service has been put into operation with these machines by the S.A.B.E.N.A., under the control of Capt. Orta. The success of the enterprise is largely due to the great interest which their Majesties the King and Queen of the Belgians take in flying, each having a private machine in which they fly. General Van Crombrugge and Major Smeyers were very active in dealing with the question from the Belgian military aviation side, and Major Nelis, Managing Director of the S.A.B.C.A., and his chief engineer, M. Demonty, and Commandant Renard, managing director of the S.A.B.E.N.A., made the flight possible by reason of the good work which they did in the works and hangars at Evre Aerodrome.

#### A Light Aeroplane Flying Club for Surrey

At a recent meeting of directors of the Surrey Light Aeroplane Club (Ltd.) it was resolved that, as provided by the articles of association of the company, steps should be taken to afford facilities to members for flying, as provided by the Air Ministry scheme which has been framed to popularise flying and cultivate air-sense in this country. With a view to arranging a meeting at a suitable centre at an early date, the directors will be pleased to hear from all those interested in such a club in Surrey, or who are desirous of obtaining flying practice, or wishing to qualify for a pilot's licence.

As is well known to all interested in aeronautics,

the club (formerly known as the Addlestone Aeronautical Association, Ltd.) was certainly the first of its kind in the county of Surrey, if not in England, to own an aeroplane, and in 1923 it entered a light aeroplane in the competitions held at Lympne, and secured substantial prizes offered by the *Daily Mail* and Duke of Sutherland. The club now wishes to widen the scope of its activities by arranging for its members facilities for practical flying, and, if one may judge by its past record, it should secure considerable successes. Anyone interested in promoting the popularising of aeronautics in Surrey are asked to communicate with the Secretary, Mr. J. Howes Betts, The Beeches, Addlestone, who will duly inform them when a meeting has been arranged.



**BRISTOLS FOR GREECE:** One of a series of "Bristol" Advanced Training Machines recently supplied to the Greek Naval Air Service. Standing near the engine will be seen (left to right) Engineer-Lieut. Alifantis, Mr. C. F. Uwins (chief Bristol pilot) and Lieut.-Commander Retsinopoulo.



# THE BRUSSELS-KINSHASA FLIGHT

## Belgian Aviators Honoured in London

ON Friday of last week two of the three Belgian aviators who made the successful flight recently from Brussels to Kinshasa in Belgian Congo (a brief summary of which will be found elsewhere in this week's issue of *FLIGHT*) were entertained at a luncheon at the Savoy Hotel given in their honour by the directors of Handley Page, Ltd. A distinguished company had gathered to meet Lieut.-Aviateur E. Thieffry and his mécanicien, de Bruycker. M. Roger, the pilot, is still in Congo, hard at work on the new air line for which the Handley Page machine was intended, and was thus unable to be present.

Mr. F. Handley Page presided, and after the toasts "The King" and "The King of the Belgians" had been honoured, the toast "The Belgian Aviation Mission to the Congo" was proposed by Sir Samuel Hoare, C.M.G., M.P., Secretary of State for Air. Sir Samuel briefly recalled how it came about that the flight to Congo was undertaken, how it was decided that an air route in Belgian Congo would be most valuable, and how Lieut. Thieffry had suggested that at least one of the machines ordered should be delivered by air. They all knew how successful the flight had been, and he was glad to be able to state that a week after its arrival the Handley Page machine was at work on the air route.

Sir Samuel Hoare recalled that the machine was of British design, and had been built by the Belgian S.A.B.C.A. company, while the three engines, one Rolls-Royce "Eagle" and two Siddeley "Pumas," were, of course, British. They had there, he said, an excellent and very practical example of Anglo-Belgian alliance. Concerning long-distance flights Sir Samuel referred to that of Air Vice-Marshal Sir Sefton Brancker and Mr. Cobham to Rangoon and back, and also to the recent air tour in Iraq made by himself and Mr. Amery. While the latter was in no way comparable with the flight to the Congo, or with other long-distance flights, he thought it was significant that for the first time in history two British ministers had been able, by making use of air transport, to visit distant parts of the Empire. Personal inspection was the only satisfactory way in such cases, as only then was it possible for them to realise the difficulties with which the administrators of a country or district were faced. He looked forward to the time when air transport would make it easier for business men to travel over the face of the earth. They were grateful for the pioneer work which their guests had done, and wished success to the new undertaking in Belgian Congo. He said they must not forget Lieut. Roger, to whose skill as a pilot much of the success of the flight was due, and suggested that a telegram be sent to him. He then read out the telegram in French, the text of which was heartily approved by the assembly.

Lieutenant-Aviateur Ed. Thieffry, in reply, regretted that his imperfect knowledge of the English language compelled him to speak in French. He thanked the directors of Handley Page, Ltd., for giving him the opportunity to express to his English friends the pleasure of himself and his comrades on the flight at the fact that they had been able to succeed in a British machine with British engines. Every Belgian recalled Britain's noble action in 1914, and the magnificent help given by the British air forces in the War, which ultimately led to victory and to the liberation of Belgium.

They had been very happy and proud of the successful collaboration of Belgium and Britain on this occasion, as represented by Handley Page, Rolls-Royce and Armstrong Siddeley on the one hand and SABCA and SABENA on the other. The flight was a severe test of machine and engines. They had flown 8,500 km. in 75 flying hours, spread over 53 days. There had been great difficulties over part of the route due to the dense mists and fogs which covered the marshy regions and tropical forests of Equatorial Africa. Five landings had to be made on unprepared ground on account of fog, and the machine had spent about 40 days and nights without being under cover. Yet the machine stood up to it all, and on arrival in the Congo the engines were giving the same number of revolutions as at the start. The ultimate success of the flight was due to the collaboration between Belgium and Great Britain, and to the splendid assistance given by the French Colonial authorities.

Mr. F. Handley Page then gave the toast of "Belgian Aviation." He recalled that the two Belgian National companies, the S.A.B.C.A., which manufactured aircraft, and the S.A.B.E.N.A., which operated the Belgian civil air

services, had sprung from the pioneer work of the distinguished Belgian, who had been associated with aviation during the War and since, and referred to the inspiring influence of the King of the Belgians and the example which he set by making many of his journeys in his own private aeroplane. Mr. Handley Page acknowledged the excellent work being done for the Belgian companies by General van Crombrugge, Major Smeyers, Major Nelis and M. Demonty of the S.A.B.C.A. and of Commandant Renard of the Sabena. He recalled that in the commencement of the Belgian services it was the good fortune of the Handley Page Company to be associated with the Snetta who promoted the Sabena, and said that today they were celebrating the delivery by air of the first machine to be put on the Congo service. He was sure all present would wish that service every success. He would also like to express his indebtedness to his old and valued Belgian friend, M. Richard, who had been indefatigable in proclaiming on every possible occasion the good qualities of British aircraft.

Mr. Handley Page then referred to the difficult conditions in the Congo, and pointed out the reasons why forced landings had to be avoided. He said that recently much had been heard of the necessity for metal construction of aircraft. He personally thought that provided the wood was adequately protected it lasted much longer than was thought at one time. A piece of wing fabric behind him, on which had been painted a map of Lieut. Thieffry's flight, had been taken off an aeroplane that had done 1,500 hours on the London-Paris service. Other machines had done over 2,000 hours, and one had done 2,500 hours. The wood in them was as good as new. He referred to the excellent effect of the special treatment which the varnish manufacturers Pinchin Johnson and Co. had supplied. In days gone by, Great Britain had changed its wooden walls for steel ships, and it might be that although we still had wings of spruce these might become wings of steel some day in the near future. It might be that supercharged engines would in the future change aeroplane performances at great heights, but whatever changes and improvements in store, we might be sure that Belgian aviation enterprise would be ready to take full advantage of any new developments.

Mr. J. H. Thomas, M.P., seconding the toast, in a very humorous speech, associated himself, both seriously and humorously, with the sentiments that had been expressed. Amid much merriment he stated that great as the flight had been it could not have been carried out except on a British machine, and as for the engines, well everyone knew that engines were always better when made in Derby. He referred to the Iraq tour of the Air Minister, and caused much amusement by saying that whatever official reasons might have been given for that tour, the real reason was that the ministers wanted the joy-ride, and when a Cabinet minister wanted something he got it. To an expression of disagreement Mr. Thomas said: "Yes, I know from personal experience." In more serious vein Mr. Thomas referred to the industrial difficulties, and said that if people could get into the habit of talking to each other instead at each other we should be much more likely to find a solution of our troubles. While this applied as between man and man, it applied perhaps even more so as between nation and nation, and it was for this reason that he welcomed the development of air routes, which would enable nations to get into much closer touch with one another, and he was glad to associate himself with what had been said.

His Excellency the Belgian Ambassador, in replying, referred to the cordial relations between Great Britain and Belgium, and mentioned that in celebrating the success of Lieut. Thieffry it should be kept in mind that he followed in the footsteps of such famous British aviators as the late Sir Ross Smith.

Air Vice-Marshal Sir Sefton Brancker proposed the toast of the Chairman, Mr. Handley Page, and recalled that he (Mr. Handley Page) had managed to weather all the storms in the aviation world during the last 15 years. His name was famous all over the world, and it was perhaps significant that if the man in the street saw an aeroplane flying overhead he would say "That's a Handley Page."

Mr. Handley Page replied in a short and witty speech, and a most successful function came to a close.

## AERIAL SURVEY OF ENGLAND

AERIAL survey has just made an important advance in this country, for we understand that the Aircraft Operating Co., Ltd., of 8, New Square, Lincoln's Inn, W.C.2, have had a tender accepted for the carrying out of an experimental air survey on behalf of the Ordnance Survey Department, with a view to ascertaining its applicability to the revision of the 25-in. maps of England.

The decision on the part of the Ordnance Survey to test the value of aerial photography for the revision of their maps is a new departure, and is a happy indication of the fact that Government departments are now recognising aerial photography for purposes of survey; and it is to be hoped that other departments will follow their example, more especially in new countries where economic development is urgently required, and towards which aeroplanes can contribute valuable help in many ways.

Canada, as we have had occasion to report in *FLIGHT* on more than one occasion, has long ago appreciated the value

of the aeroplane in opening up its vast unknown territory, both as regards transport and survey—over 40,000 square miles have been covered during the past season in various parts of Canada. The Report of the Commission, recently sent to East Africa, indicates how urgently economic development is required in these tropical regions, the development of which would do so much towards the solution of unemployment in the Empire, by promoting trade of various kinds.

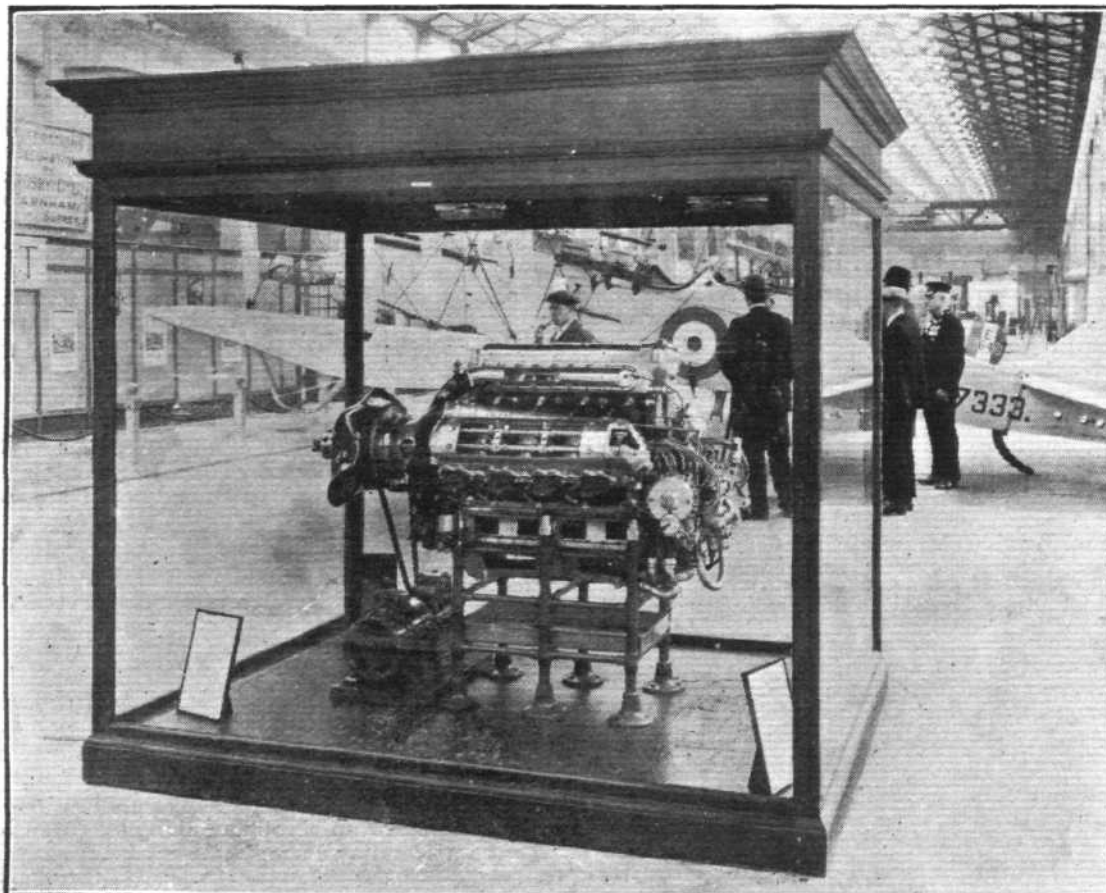
The first stage in the development of a country should be the provision of suitable maps, and by far the most rapid method of doing this is aerial survey. In the case of the revision of the Ordnance maps of England, the purpose of the aerial photographs is rather different, as the scale employed is very much larger than any usually necessary in other parts of the Empire; so that the requirements are of a much more exacting nature than would be the case in mapping for the comparatively small scales suitable to new and undeveloped areas.

## AIR MINISTRY EXHIBIT AT WEMBLEY

ONE of the many attractions at Wembley this year is the Air Ministry's exhibit in the Palace of Housing and Transport. It is divided into three sections. In the first section is shown a Bristol Fighter, which is the standard type for co-operation between the Air Force and the Army on the ground, a D.H.9A, and a Martinsyde high-speed fighting aircraft, modified by the Aircraft Disposal Company, and recently described in *FLIGHT*. In addition to this later machine the "A.D.C." also exhibit in their section many of their specialities, such as the famous Siddeley "Puma" engine, etc.

The visitors to the Aircraft section will also have an opportunity of studying two sectionalised high-powered aircraft engines—a 450 h.p. Napier "Lion" and a 450 h.p. Bristol "Jupiter." These will be shown working at slow revolution and "opened" up, so that the operation of their various parts can easily be followed. A Reid testing apparatus for judging pilots will also be on view. This apparatus is used for testing, with great accuracy, the potential abilities of the pilot, and at the same time gives the pilot much enjoyable practice under conditions very similar to those obtaining in actual flight. With this apparatus the pilot can bank, glide, go into a spin, and do all the other various manoeuvres inherent in an aeroplane. A series of ingenious instruments register every single angle, which is, at the same time, regis-

tered by various coloured lights in front of the pilot so that he may correct his mistakes, until three brilliant white lights appear, showing that he has regained the stability of the machine. The second section is devoted to commercial types of aircraft which have been loaned for the purpose by the Imperial Airways Co., Ltd. These consist of a Vickers' "Vulcan" freighter and a Bristol "Tudor," which are two of the types now principally in use pending the new machines now in course of construction. Here also will be found an exact replica of the Control Tower at Croydon Aerodrome. From this tower the officer in charge of the aerodrome is able to give instructions to aircraft in flight by means of wireless in order that they may obtain the correct bearings for landing. In the cabin at the top of the tower he is in direct contact by wireless with the aircraft leaving or approaching Croydon. He can warn them of fogs, mishaps on the ground, or anything which may come to his notice during their journey. A chart in front of him shows the Imperial Airways, and the course of every aeroplane is marked every few minutes by flags, according to the wireless signals received from the pilot himself. The wireless control, which is the principal feature of this section, will be shown in operation. Another extremely interesting exhibit in this section will be the Cone lighthouse, which will also be in working order.



One of the Aircraft Exhibits at Wembley: A sectionalised 450 h.p. Napier "Lion" engine on view in the Engineering Section of the Housing and Transport Building. It can be seen working, so that one can observe every part functioning as it does when in the air.



# THE ROYAL AIR FORCE

London Gazette, May 19, 1925

## General Duties Branch

Flying Officer A. R. Wardle is granted a permanent commn. in rank stated; May 20. Lieut. J. E. Hewitt, R.A.N. (lent R.N.), is granted a temp. commn. as a Flying Officer on attachment to R.A.F.; May 4.

The following are granted temp. commns. on seconding for four years' duty with R.A.F. (May 12):—Flying Officer (Hon. Flight-Lieut.)—Capt. D. J. Stewart (York and Lanc. R.), Flying Officer.—Lieut. F. S. S. Lamprey (Green Howards).

The following Pilot Officers are promoted to rank of Flying Officer:—H. S. Dawe; Feb. 14. F. G. Jennings; March 14. A. G. Moon; March 14. G. H. W. Selby-Lowndes; March 14. G. J. Southam; April 15. A. C. Addams; April 17. The seny. of Pilot Officer H. E. Nowell is antedated to Dec. 17, 1924, his name to appear on the gradation list immediately below that of Pilot Officer G. B. Beardsworth. Sqdn.-Leader A. W. H. James, M.C., is placed on the retired list at his own request, and is granted rank of Wing-Commander; May 21. Flying Officer E. B. Green, M.C., is placed on retired list at his own request; May 20.

## ROYAL AIR FORCE INTELLIGENCE

**Appointments.**—The following appointments in the Royal Air Force are notified:—

### General Duties Branch

**Flight Lieutenants:** B. D. S. Tuke, to No. 1 Group H.Q., Kidbrooke. 14.5.25. H. V. Pendavis, D.S.O., to No. 2 Flying Training Sch., Digby. 18.5.25. H. N. Hampton, D.F.C., to H.Q., Inland Area. 18.5.25. J. McFarlane, M.C., to R.A.F. Base, Gosport. 18.5.25. H. J. Edgar, to No. 1 Flying Training Sch., Netheravon. 1.6.25. D. K. Cameron, to No. 8 Sqn., Iraq. 1.5.25. H. S. Scroggs, to No. 58 Sqn., Worthy Down. 1.6.25. A. W. Symington, M.C., to Stores Depot, Iraq. 1.5.25. A. W. Cuddon-Davis, to No. 39 Sqn., Spittlegate. 3.6.25. W. A. Duncan, to No. 6 Sqn., Iraq. 1.5.25. F. Thomasson, D.F.C., M.M., to No. 70 Sqn., Iraq. 1.5.25. D. Cloete, M.C., A.F.C., to Central Flying Sch., Upavon. 25.5.25. A. C. Collier, to No. 24 Sqn., Kenley. 29.5.25. E. P. M. Davis, A.F.C., A.M., to H.Q., Egypt. 15.5.25.

**Flying Officers:** G. H. Russell, D.F.C., to Sch. of Army Co-operation, Old Sarum. 18.5.25. C. E. B. Winch, to Sch. of Tech. Training (Men),

### Medical Branch

Flight-Lieut. E. A. Lumley, M.C., M.B., is promoted to rank of Squadron-Leader; May 19. The following relinquish their temp. commns. on ceasing to be employed:—Flight-Lieut. J. F. Gallagher; April 18. Flight-Lieut. (hon. Sqdn.-Ldr.) J. Craig, M.D.; April 25.

### Accountant Branch

Flying Officer R. D. Robbins is transferred to Reserve, Class C; April 15.

### Chaplains' Branch

The Rev. A. W. Brown is granted a permanent commn. with relative rank of Sqdn.-Leader; May 20.

### Reserve of Air Force Officers

C. A. J. Goodfellow is granted a commn. in Class A, General Duties Branch, as a Pilot Officer on probation; May 19. The following are confirmed in rank (May 18):—Flying Officer C. G. Bloomer, Pilot Officer R. J. Bunning. Flying Officer J. F. Turpie is transferred from Class A to Class C; May 8. The commn. of Pilot Officer on probation H. D. Clevely is terminated on cessation of duty; Feb. 3. (Substituted for *Gazette*, Feb. 3.)

Manston. 21.5.25. (Hon. Flight-Lieut.) D. J. Stewart and F. S. S. Lamprey, to No. 24 Sqn., Kenley, on appointment to temp. Commns., on being seconded from the Army. 12.5.25. H. V. Mitchell, to H.Q., Iraq. 1.5.25. B. A. S. Lewin, to No. 2 Flying Training Sch., Digby. 21.5.25. F. V. Gauntlett, to No. 24 Sqn., Kenley. 18.5.25. E. B. Forster, to Inland Area Aircraft Depot, Henlow. 18.5.25.

**Pilot Officer:** W. V. R. Nicholl, to Night Flying Flight, Biggin Hall. 21.5.25.

### Stores Branch

**Wing Commander:** W. R. Bruce, O.B.E., to No. 1 Stores Depot, Kidbrooke, for Stores duties. 28.5.25.

**Squadron Leaders:** H. L. Crichton, M.B.E., to No. 3 Group H.Q., Spittlegate. 1.6.25. H. E. J. Hewitt, to No. 6 Group H.Q., Kenley. 28.5.25.

**Flight Lieutenants:** F. Petch, O.B.E., to Station H.Q., Spittlegate. 8.6.25. A. M. Saywood, to Stores Depot, Iraq. 1.5.25. L. A. Lavender, to Inland Area Aircraft Depot, Henlow. 1.6.25.

**Flying Officer:** W. T. Lewis, to No. 84 Sqn., Iraq, instead of to Stores Depot, Iraq, as previously notified. 3.4.25.

## IN PARLIAMENT

### South-West Ireland Aerodromes

MR. J. BECKETT on May 20 asked the Secretary of State for Air if any aerodromes were built, or commenced, during the War in the South-West of Ireland; and, if so, what are their names?

SIR SAMUEL HOARE: Yes, sir, there were in November, 1918, a completed aerodrome at Fermoy and an unfinished one, for airships, at Killeagh, 20 miles east of Cork. I am not sure whether the hon. member's question covers seaplane and kite-balloon stations, which had no land aerodromes attached; but if it does, there were seaplane stations at Aghada, near Queenstown, and at Whiddy Isle, in Bantry Bay, and a kite-balloon station at Berehaven.

### War Casualties, Enemy Aircraft

MR. THURTELL asked the Secretary of State for Air the number of rounds fired in this country by anti-aircraft guns against hostile aircraft during the late War; and the number of direct hits recorded as a result of such fire?

THE FINANCIAL SECRETARY TO THE WAR OFFICE (CAPT. DOUGLAS KING): I have been asked to reply. Records of the number of rounds fired in this country by anti-aircraft guns throughout the whole period of the War are not available, but it is known that between September 24, 1917, and August 5, 1918, the number of rounds fired was 155,132. The number of direct hits on enemy aircraft could not be definitely recorded, but 15 aeroplanes were destroyed during the War by anti-aircraft fire, and two airships were destroyed by anti-aircraft fire alone and four by guns and aeroplanes jointly. Many other aircraft were seriously damaged though not brought down.

MR. THURTELL: Is it not a fact that no direct hit was achieved by anti-aircraft fire in this country during the War?

CAPT. KING: If the hon. Member will read my answer he will see that two airships were destroyed by anti-aircraft fire alone, as well as 14 aeroplanes.

CAPT. BENN: May I ask the Secretary of State for Air whether he does not think that the efficiency of the anti-aircraft batteries would be greatly increased if they were under his control and worked in co-operation with the Air Force?

### Aviation and Northern Europe

LIEUT.-COMDR. KENWORTHY asked the Secretary of State for Air whether his attention has been drawn to the development of the German civilian air service, and to the formation of an air-service combine to cover a great part of Northern Europe under German auspices; and what steps are being taken to safeguard British flying rights in Northern Europe and the development of British aviation in this area?

SIR S. HOARE: The answer to the first two parts of the question is in the affirmative. As regard the third part, air agreements have been concluded with Holland, Denmark, Norway and Sweden, and negotiations for an agreement with Germany are in progress. As regards the fourth part, British air services regularly operate to Amsterdam, connecting with the Copenhagen-Malmö air service, and thus providing a through route from London to Scandinavia, and also to Berlin in co-operation with the Deutscher Aero Lloyd A.C., but it has not yet been possible further to develop British aviation in Northern Europe.

LIEUT.-COMDR. KENWORTHY: I am much obliged to the right hon. gentleman for the information. May I ask, in regard to these negotiations with the German aircraft companies—I presume that they are with the companies and not with the Government—is not part of the negotiation with regard to the granting of flying rights over German territory, and is the matter on the way to settlement?

SIR S. HOARE: Certain negotiations are with the Government and certain of them with the companies. The negotiations with the Government are inter-Allied negotiations, of which we form only a part, in connection with flying rights over Europe. The question with the companies, as apart from that with the Government, is actually now in progress, and I have no reason to think that agreement will not be reached between the British and German companies concerned.

CAPT. BENN: As to the negotiations with the Government, can the right hon. gentleman say whether they involve some relaxation of the Treaty restrictions? If so, what is contemplated, and when may a result be achieved?

SIR S. HOARE: I am afraid that I cannot say when any result will be reached. We are only one party to the negotiations. The hon. and gallant member knows that this question has been constantly under consideration for two or three years, and that no one wishes to see a satisfactory result obtained more than myself.

### London and Prague Air Service

LIEUT.-COMDR. KENWORTHY on May 21 asked the Secretary of State for Air what progress has been made in the negotiations for permitting British aeroplanes to fly over German territory so as to be able to establish an air service between London and Prague; and what is the cause of the delay in the establishment of this air route?

SIR SAMUEL HOARE: I much regret that no progress towards the establishment of an air service between London and Prague has been possible. The German authorities, while agreeing to the continuance of flights by British aircraft to Cologne and Berlin, refuse to permit the operation of a regular service across German territory to Czechoslovakia.

LIEUT.-COMDR. KENWORTHY: Is any diplomatic action being taken in this regrettable matter, which has been hanging on now for three years?

SIR S. HOARE: Yes, sir, we have been engaged in constant negotiations both in Paris and Prague, and I much regret that no progress has been made.

### Airship R.33

REAR-ADMIRAL BEAMISH asked the Secretary of State for Air (1) whether, in view of the fact that the Admiralty is the only Department of Government which has designed and constructed airships, a naval officer was included on the court of inquiry into the circumstances attending the breaking away of R.33 from her mooring mast; and, if not, whether, in view of the fact that the safety of ships at their moorings, is a problem constantly in the minds of naval officers, he will request that an experienced naval officer be lent to assist in the complete elucidation of this regrettable accident?

(2) Whether his Department, prior to the breaking away of the R.33, consulted the Admiralty with reference to the most suitable type of apparatus for mooring airships to masts; and, if so, whether the recommendations of the Admiralty were adopted?

SIR S. HOARE: The implication in my hon. and gallant friend's questions that the Air Ministry has had less experience than the Admiralty in the mooring of rigid airships to masts is incorrect, as is the suggestion that the Admiralty is the only Department with experience of airship construction. On the contrary, even when the Admiralty were still responsible for the design and construction of airships, it was by the Royal Air Force that practical experiments in regard to mast mooring were conducted and the 1921 trials, which finally established the practicability of the mooring mast, were carried out entirely by the Air Ministry. The problem is an entirely different one from that of the mooring of ships at sea. For these reasons, whilst I desire to utilise all available airship experience, whether at the Admiralty or elsewhere, there would have been no advantage in this particular case either in consulting the Admiralty before the recent accident to the R.33 or in requesting the assistance of a naval officer in elucidating its cause.

COL. WOODCOCK: Is the right hon. gentleman aware that when the airship broke loose the crew on board consisted of one officer and 20 men, notwithstanding that during the day very bad weather was reported throughout the country?

SIR S. HOARE: Yes, sir, I am aware that the crew did consist of that number, but I do not think there is any cause of criticism on that account.

REAR-ADMIRAL BEAMISH: Can the right hon. gentleman tell me whether any new type of mooring is anticipated, in view of the fact that the existing one is insufficient to hold the ship?

SIR S. HOARE: No, sir. I would not admit the implication contained in the second part of the supplementary question. As to whether any other kind of mooring mast is contemplated, another kind of mooring mast is at present the subject of expert investigation, and until that expert investigation is completed, I cannot give any further answers on the subject.



# NOTICE TO AIRMEN

## Licensing of Civil Aerial Navigators

It is notified that the conditions on which navigators' licences will be issued are under revision.

C.A. Publication 2 (The Licensing of Civil Aerial Navigators) is cancelled.

A further notice will be issued shortly announcing the new conditions.

No. 31 of 1925.

## ROYAL AERONAUTICAL SOCIETY

(Official Notices.)

NOTICE is hereby given that, by order of the Council, a Special General Meeting of the Royal Aeronautical Society will be held on Monday, June 8 next, at 5.15 p.m., at the offices of the Society, 7, Albemarle Street, London, W.1.

Agenda.—(1) To consider a statement by the Chairman. (2) To consider the terms of a proposed amalgamation of the Institution of Aeronautical Engineers with the Royal Aeronautical Society.

## The Italian Rome-Australia Flight

CONTINUING his flight from Rome to Australia in a Savoia S.16 ter flying boat, Col. M. di Pinedo, Chief of Air Staff in Italy, left Tavoy (Burma) on May 19 and reached Mergui (about 130 miles on) in the evening. It was originally intended to make for Puket, Siam, but rough weather prevented this. He set out again at 8 a.m. on May 21, and eventually reached his objective. On May 23 he arrived at Penang, nearly 650 miles from Tavoy, and the following day he added another 400 odd miles by flying to Singapore. The next day, May 25, he arrived at Batavia, in Java, having thus covered about 1,550 miles in a week.

## A Dinner to Mr. C. R. Fairey

ON the 22nd instant a dinner was given by the executive staff of the Fairey Aviation Co., Ltd., to Mr. C. R. Fairey and his co-directors. Mr. Hazell, the Secretary of the company, who was in the chair, in proposing the health of Mr. Fairey, referred to the firm's present favourable position, and to the fact that it had almost completed the first decade of its existence. The occasion was a suitable one, he considered, upon which to make a presentation to Mr. Fairey as a mark of esteem and loyalty of the staff. This took the form of a suitably inscribed silver table centre. Mr. Fairey, in responding to the toast, after thanking the staff for the very handsome present, briefly outlined the future policy of the firm. Various other toasts and speeches, also musical items, combined to make the evening pass only too quickly, and at the conclusion all were agreed that the event had been a complete success in every respect.

## Royal Air Force Flying Accidents

THE Air Ministry regrets to announce that as a result of an accident at Sialkot, India, to a Bristol Fighter of No. 31 Squadron, Ambala, on May 20, Flying Officer Arthur Findley, R.A.F., the pilot of the aircraft, and Capt. Gregory Rich, Indian Army, were killed.

As a result of an accident at Northolt Aerodrome to a Snipe machine of No. 32 Squadron, Kenley, at 9.10 p.m. on May 22, Pilot Officer Arthur Reinagle Woodyatt, the pilot of the aircraft, was killed.

In an accident near Spittlegate to a Fairey "Fawn" machine of No. 100 Squadron, Spittlegate, at 6 p.m. on May 25, Pilot Officer Jack Terence Eve, the pilot of the aircraft, was killed, 341626 A.C.1 George Edward Bruce dangerously injured, and 244302 A.C.2 Percival Thomas Sharpe severely injured. A.C.1 Bruce died of his injuries on the same day. In another accident at Andover in the evening of the same day, No. 241627 Corporal Sydney Ronald Wilson, of No. 12 Squadron, was killed whilst engaged in a practice parachute jump.

## Famous French Pilot Killed

WHILE making a flight in connection with the Zenith Cup on May 19 last, the famous French pilot, Adj. Foigny, met with a fatal accident near Tours. His machine crashed into a tree at a speed of about 125 m.p.h., and Foigny and his mechanic were both instantly killed.

## Maj. Mayo joins Imperial Airways

MAJ. R. H. MAYO—at one time associated with Ogilvie and Partners and at present a Director of the Aircraft Operating Company—has recently been appointed Consulting Engineer to Imperial Airways, Ltd. This appointment, it should be noted, is a personal one, and will not in any way affect Maj. Mayo's relationship with the Aircraft Operating Company.

## SOCIETY OF MODEL AERONAUTICAL ENGINEERS

(London Aero Models Association)

WILL readers please note that the competition for the "Felix Kelly" Challenge Cup will be held on June 6, on Wimbledon Common, as originally arranged, and will not be postponed as stated in error last week?

The following is a list of British Model Aeroplane Records up to December 24, 1924:—

Type of Machine.	Holder of Record.	Duration.
Fuselage Glider ..	Mr. F. de P. Green	48.4 secs.
Fuselage Flyer (R.O.G.)	Mr. S. C. Herson ..	34 secs.
Fuselage Flyer (H.L.)	Mr. S. C. Herson ..	39.2 secs.
Spar Glider ..	Mr. C. J. Burchell..	53.4 secs.
Twin Pusher (R.O.G.)	Mr. S. C. Herson ..	247 secs.
Twin Pusher (H.L.) ..	Mr. Collingwood	145 secs.
Chown		
Twin Pusher (R.O.W.)	Mr. S. C. Herson ..	65 secs.
Single Tractor (R.O.G.)	Mr. J. E. Louch ..	94 secs.
Single Tractor (H.L.)	Mr. J. E. Louch ..	91 secs.
Single Tractor (R.O.W.)	Mr. C. C. Dutton ..	29 secs.
Single Pusher (H.L.)..	Mr. J. E. Louch ..	95 secs.
Single Pusher (R.O.G.)	Mr. J. E. Louch ..	68 secs.
	Mr. W. E. Evans ..	Distance 290 yds.

Farman Pusher (H.L.)	Mr. F. de P. Green	27 secs.
Farman Pusher (R.O.G.)	Mr. H. H. Bedford	17 secs.

Compressed Air ..	Mr. D. A. Pavely ..	70 secs.
Petrol Driven ..	Mr. D. Stanger ..	51 secs.
Seaplane (H.L.) ..	Mr. S. C. Herson ..	29 secs.

A. E. JONES, Hon. Sec.

## PUBLICATIONS RECEIVED

Rules, List of Members, etc., 1925. The Motor and Cycle Trades Benevolent Fund, 154, Clerkenwell Road, London, E.C.1.

The Bianco Cold Process of Galvanizing. The Anglo Galvanizing Co., Ltd., Abbey House, Victoria Street, London, S.W.1.

Official Gazette of the United States Patent Office, May 5, 1925. Vol. 334. No. 1. United States Patent Office, Washington, D.C., U.S.A.

Beitrag zur Turbinentheorie. By Dr.-Ing. Bruno Eck. Technische Hochschule, Aachen, Germany.

Potentialströmung in Ventilen. By Bruno Eck. Technische Hochschule, Aachen, Germany.

Department of Overseas Trade. Report on the Economic and Financial Conditions in Switzerland, February, 1925. By R. A. C. Sperling. H.M. Stationery Office, Kingsway, London, W.C.2. Price 2s. net.

## AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

### APPLIED FOR IN 1924

Published May 28, 1925

- 2,115. AIRSHIP GUARANTEE CO., LTD., and B. N. WALLIS. Lighter-than-air craft. (233,020.)
- 2,116. AIRSHIP GUARANTEE CO., LTD., and B. N. WALLIS. Rigid airships. (233,021.)
- 2,126. AIRSHIP GUARANTEE CO., LTD., and C. D. BURNEY. Lighter-than-air craft and i.c. engines therefor. (233,023.)
- 8,899. DAYTON ENGINEERING LABORATORIES CO. Engine-starting systems. (222,435.)
- 10,294. E. J. BECHARD. Means for preventing, minimising, and extinguishing fire on aircraft and giving alarm thereof. (219,282.)
- 22,710. CIE. D'APPLICATIONS MECANIQUE. Removable wheels. (223,891.)
- 28,560. L. E. REMONDY. Device for suspending bombs from aircraft. (233,262.)

## FLIGHT

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